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JAMES D. WATKINS NOMINATION

HEARING

BEFORE THE

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON THE

NOMINATION OF JAMES D. WATKINS TO BE SECRETARY OF ENERGY

FEBRUARY 22, 1989

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JAMES D. WATKINS NOMINATION

WEDNESDAY, FEBRUARY 22, 1989

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 10:05 a.m., in room SD-366, Dirksen Senate Office Building, Hon. J. Bennett Johnston, chairman, presiding.

Mike Harvey has a scheduling announcement that he wants to make.

Mr. **HARVEY**. Thank you, Senator.

The Chairman has authorized me to state that next Wednesday he intends at a business meeting to ask the committee to vote on the nomination of Admiral Watkins and that all questions for the record should be submitted by 5:00 o'clock this afternoon to Nancy Blush of the committee staff for response by Admiral Watkins.

Senator **ROCKEFELLER**. Thank you.

Admiral, thank you very much. I look forward to voting for you. The hearing is adjourned.

[Whereupon, at 12:55 p.m., the hearing was adjourned.]

OPENING STATEMENT OF HON. J. BENNETT JOHNSTON, U.S. SENATOR FROM LOUISIANA

The **CHAIRMAN**. The hearing will come to order. The subject of the hearing this morning is the confirmation of Admiral James D. Watkins to be Secretary of Energy.

I know of no other position in the whole Federal Government which offers as great a challenge, and which is more important to the welfare of our national defense, as well as our future energy and economic well-being.

The first priority of the new energy secretary will be the restoring of the credibility of the Department's nuclear weapons protection complex. This job is estimated to cost as much as $100 billion.

The problems of the defense complex will get the media attention. However, you must not let this distract you from what is the best interests of the country.

Disposal of civilian nuclear waste is an area that has been a special concern of this committee. There is probably more money wasted in nuclear waste than in any other activity I know of of the federal government, $400 million a year of paper studies with very little progress being made, very little direction in terms of the nuclear waste program.

We now have what I consider to be an excellent law in being, but very little direction in terms of management. Another great challenge for the new energy secretary.

We urgently need reform in uranium enrichment. I have talked to Admiral Watkins about uranium enrichment, and we recognize the great need for this country to get on with a policy that keeps uranium enrichment in this country, with its jobs and with its impact on national security.

The problem of advanced reactors is also a great challenge. We are going to need nuclear energy. We are going to need it very badly in this country to deal with the energy needs of the future.

A new inherently safe reactor is technologically possible. The Department of Energy should lead the way with respect to that.

On scientific facilities, the Department of Energy must determine priorities. We have got a great national resource out there with our national labs. Some of their defense programs may be reduced, we hope, as arms agreements with the Soviet Union are confected in the future.

But these great national resources ought to be used, it seems to me, in important ways to advance research and development and advance the civilian sector of our economy.

I will not go into all of the points in my opening statement that I would like to put the opening statement in the record. I am just summarizing, hoping to create a precedent here on the committee that we will leave most of our time to Admiral Watkins, and the questioning of Admiral Watkins, because I know we have so many important areas to cover.

But before we get on to the introduction of Admiral Watkins, I would like to call on the distinguished ranking minority Member, Senator McClure.

[The prepared statement of Senator Johnston follows:]

STATEMENT OF SENATOR J. BENNETT JOHNSTON

COMMITTEE ON ENERGY AND NATURAL RESOURCES

CONFIRMATION HEARINGS FOR
ADMIRAL JAMES D. WATKINS
TO BE
SECRETARY OF ENERGY

FEBRUARY 22, 1989

THE SUBJECT OF THIS HEARING IS THE NOMINATION OF ADMIRAL JAMES D. WATKINS TO BE SECRETARY OF ENERGY.

WE ARE BOTH GLAD TO BE HOLDING THIS HEARING AT LAST. THE LONG DELAY IN PROCESSING THE NECESSARY FBI PAPERWORK FOR YOUR NOMINATION IS VERY UNFORTUNATE.

THIS DELAY OBSCURES THE MOST IMPORTANT MESSAGE OF YOUR NOMINATION: **WE AS A GOVERNMENT ARE GOING TO TREAT ENERGY WITH THE IMPORTANCE IT DESERVES.**

AFTER EIGHT YEARS OF NEGLECT, PERHAPS WE CAN BEGIN TO PUT OUR ENERGY HOUSE IN ORDER.

AFTER EIGHT YEARS, PERHAPS WE CAN ACKNOWLEDGE THAT THERE IS A FEDERAL ROLE AND RESPONSIBILITY FOR ENERGY.

PERHAPS WE CAN ADMIT THAT ACCOMPLISHMENTS IN ENERGY ARE NOT AUTOMATICALLY SUSPECT BECAUSE THE FEDERAL GOVERNMENT IS INVOLVED.

THE PRESIDENT HAS SENT US A HIGHLY QUALIFIED, COMMITTED NOMINEE FOR SECRETARY OF ENERGY. THIS NOMINATION MUST BE FOLLOWED BY THE NAMING OF QUALIFIED, COMMITTED PEOPLE FOR THE IMPORTANT SUBORDINATE POSITIONS IN THE DEPARTMENT -- DIRECTOR OF THE NUCLEAR WASTE PROGRAM, ASSISTANT SECRETARY FOR DEFENSE PROGRAMS, ASSISTANT SECRETARY FOR ENVIRONMENT SAFETY AND HEALTH, THE HEAD OF THE URANIUM ENRICHMENT

PROGRAM, TO NAME ONLY A FEW.

THE QUALITY OF THE PEOPLE IN THESE POSITIONS IS VERY, VERY IMPORTANT FOR YOUR SUCCESS AS SECRETARY.

YOU WILL NEED PEOPLE YOU CAN RELY ON IN THESE POSITIONS. THE ENERGY DEPARTMENT FACES AN ARRAY OF PROBLEMS OF UNPRECEDENTED MAGNITUDE. SOLUTION OF THESE PROBLEMS WILL CALL FOR STRONG, ACTIVE, PROFESSIONAL LEADERSHIP AND A SUBSTANTIAL COMMITMENT OF RESOURCES, THINGS OFTEN MISSING IN THE LAST ADMINISTRATION.

DOE WEAPONS COMPLEX

YOUR FIRST PRIORITY AT DOE IS RESTORING THE CREDIBILITY OF THE DEPARTMENT'S NUCLEAR WEAPONS COMPLEX.

THIS IS A VERY TRICKY JOB. ON ONE HAND, YOU MUST BE AN ADVOCATE OF SAFETY AND CLEANING UP THE ENVIRONMENT. YOU MUST TELL PEOPLE WHAT YOU PLAN TO DO. YOU MUST LET THEM COMMENT ON YOUR PLANS, AND YOU MUST RESPOND TO THEIR COMMENTS. YOU MUST BE OPEN, CANDID, AND ABOVE SUSPICION. YOU MUST HAVE CREDIBILITY WITH THE PUBLIC.

ON THE OTHER HAND, YOU SHOULD REMEMBER THAT THERE ARE SOME PEOPLE YOU ARE NEVER GOING TO SATISFY. WE HAVE SPENT HUNDREDS OF MILLIONS OF DOLLARS ON CIVILIAN NUCLEAR REACTORS IN A FUTILE ATTEMPT TO SATISFY PROFESSIONAL NUCLEAR CRITICS. THEY AREN'T SATISFIED. THEY NEVER WILL BE.

YOU MUST MAKE SAFETY YOUR PRIORITY. YOU MUST BE SENSITIVE TO SAFETY, YOU MUST MANAGE WITH SAFETY IN MIND, YOU MUST GO THE EXTRA MILE FOR SAFETY. BUT YOU DO NOT HAVE A CHARTER TO THROW AWAY HUNDREDS OF MILLIONS OF TAXPAYERS' DOLLARS JUST BECAUSE OF A MINORITY THAT DOESN'T UNDERSTAND OR CARE ABOUT REAL SAFETY.

THE PROPER COURSE IS TO BRING THE BEST SCIENTIFIC AND ENGINEERING MINDS AVAILABLE TO ANALYZE WHAT HAS TO BE DONE. ASSURE YOURSELF THAT YOUR PLAN WILL PASS REVIEW BY THOSE WHO KNOW THE MOST ABOUT THE SCIENCE INVOLVED. ESTABLISH A SCIENTIFIC CONSENSUS THAT YOUR PLAN IS RESPONSIBLE AND ADEQUATE TO PROTECT THE PUBLIC HEALTH AND SAFETY. THEN STICK TO IT.

THE COMMITTEE ON ENERGY AND NATURAL RESOURCES CAN HELP IN BUILDING SUPPORT FOR A RESPONSIBLE PLAN THAT IS BASED ON SOUND SCIENTIFIC ANALYSIS AND ENGINEERING JUDGMENT.

ATTENTION NEEDED TO OTHER ISSUES

THE PROBLEMS OF THE DEFENSE COMPLEX WILL GET THE MEDIA ATTENTION. HOWEVER, YOU MUST NOT LET THIS DISTRACT YOU FROM SEVERAL VERY IMPORTANT NON-DEFENSE ISSUES THAT REQUIRE URGENT ACTION BY THE DEPARTMENT.

1. OIL

BY FAR THE MOST SERIOUS NON-DEFENSE ISSUE YOU FACE IS THE STATE OF OUR OIL SUPPLIES. OIL IS THE MOST IMPORTANT ENERGY SOURCE IN ANY NATIONAL ENERGY POLICY.

HALF OUR ENERGY CONSUMPTION IS OIL. IN THE IMPORTANT CASES, SUCH AS TRANSPORTATION, IT IS TOO EXPENSIVE OR IMPOSSIBLE TO USE FUELS OTHER THAN OIL.

WAY TOO MUCH OIL IS IMPORTED FROM THE MIDDLE EAST. ONE LOOK AT WHAT IS GOING ON THERE TODAY SHOULD BE SUFFICIENT TO SEE THE FOLLY OF OVER DEPENDENCE ON THIS SOURCE OF OIL.

IN 1988 WE IMPORTED 42 PERCENT OF OUR OIL. THREE YEARS AGO WE IMPORTED 31 PERCENT. THE BULK OF THAT GROWTH HAS COME FROM OPEC.

OUR DOMESTIC PRODUCTION OF OIL IS FALLING AT THE FASTEST RATE IN

MODERN TIMES. WE LOST A MILLION BARRELS PER DAY OF PRODUCTION BETWEEN 1986 AND 1988. LOWER 48 OIL PRODUCTION TODAY IS THE LOWEST IT'S BEEN SINCE 1950.

THE PRESIDENT HAS PROPOSED SOME TAX INCENTIVES FOR OIL PRODUCTION. THAT'S ALL RIGHT AS FAR AS IT GOES. BUT IT DOESN'T GO FAR, AND IT COSTS THE TREASURY MONEY. SENATOR BENTSEN AND I INTEND TO REINTRODUCE OUR OIL IMPORT FEE LEGISLATION. AN IMPORT FEE NOT ONLY BOOSTS DOMESTIC PRODUCTION, IT ALSO REDUCES THE DEFICIT.

WE NEED TO GET HENSON MOORE CONFIRMED. I CAN'T THINK OF A BETTER PERSON TO HELP YOU CREATE AN OIL POLICY THAT MATCHES THE DANGERS WE FACE FROM OUR GROWING OIL DEPENDENCE. WE NEED TO ACT NOW.

2. NUCLEAR WASTE

THIS PROGRAM HAS NOT HAD A DIRECTOR SINCE 1987. YOU NEED A TOP-QUALITY PERSON IN THIS JOB NOW.

THERE IS TREMENDOUS EXPOSURE IN THIS PROGRAM - POLITICALLY AND FINANCIALLY. MOREOVER, HAVING AN EFFECTIVE CIVILIAN RADIOACTIVE WASTE PROGRAM IS ESSENTIAL TO THE SUCCESS OF YOUR EFFORTS TO CLEAN UP DEFENSE RADIOACTIVE WASTES. THE DEFENSE HIGH-LEVEL RADIOACTIVE WASTES WILL BE PLACED IN THESE FACILITIES.

3. URANIUM ENRICHMENT

WE URGENTLY NEED TO REFORM THE DOE URANIUM ENRICHMENT PROGRAM, OR DOE WILL LOSE MANY OF ITS DOMESTIC UTILITY CUSTOMERS. WE'VE ALREADY LOST MOST OF THE WORLD MARKET.

REFORM REQUIRES LEGISLATION. LAST CONGRESS WE PASSED LEGISLATION IN THE SENATE TO DEAL WITH THIS PROBLEM. WE WILL NEED YOUR HELP IN THIS CONGRESS, ESPECIALLY IN THE HOUSE.

4. ADVANCED REACTORS

THE DOE PROGRAM TO DEVELOP THE NEXT GENERATION OF NUCLEAR REACTORS NEEDS YOUR ATTENTION. THE CURRENT PROGRAM LACKS FOCUS AND IS FACING RISING FACILITY COSTS.

WE NEED TO DEMONSTRATE TO THE PUBLIC THAT MODULAR REACTORS WITH PASSIVE SAFETY FEATURES CAN BE DESIGNED, FINANCED, CONSTRUCTED, AND LICENSED IN A REASONABLE FASHION. DOE'S PROGRAM IS SUPPOSED TO DO THIS, BUT IT ISN'T.

WE SIMPLY CAN'T DO WITHOUT NUCLEAR POWER IF WE HOPE TO DEAL WITH ELECTRICITY DEMAND GROWTH AND THE CHALLENGE OF GLOBAL WARMING.

5. SCIENCE FACILITIES

THE PREVIOUS ADMINISTRATION PROPOSED MANY MORE SCIENTIFIC FACILITIES THAN COULD POSSIBLY BE FUNDED IN THE CURRENT BUDGET CLIMATE. THE SUPERCONDUCTING SUPER COLLIDER IS ONLY THE MOST VISIBLE PART OF THE PROBLEM.

PRIORITIES MUST BE ESTABLISHED. THE SCIENCE COMMUNITY SEEMS TO RECOGNIZE THIS. YOUR LEADERSHIP IN MATCHING WHAT WE WANT WITH WHAT WE CAN AFFORD IS ESSENTIAL.

6. ACID RAIN

PRESIDENT BUSH HAS DECLARED THAT THE ADMINISTRATION WILL SUPPORT LEGISLATION DEALING WITH ACID RAIN. CLEAN COAL TECHNOLOGY SHOULD BE PART OF THIS EFFORT.

7. GLOBAL CLIMATE CHANGE

THE GROWING CONCERN OVER THE POSSIBILITIES OF GLOBAL CLIMATE CHANGE HAS IMPORTANT IMPLICATIONS FOR ENERGY POLICY AND ENERGY USE. DOE SHOULD BE A SIGNIFICANT PARTICIPANT IN ALL RESEARCH AND DEVELOPMENT

PROGRAMS AND POLICY STUDIES DEALING WITH THIS ISSUE.

SUMMARY

THESE ARE ONLY A FEW OF THE ISSUES THAT I WOULD HIGHLIGHT FOR YOU. THE DEPARTMENT OF ENERGY IS ONE OF THE TOUGHEST CABINET JOBS RIGHT NOW. IT INVOLVES A WHOLE LOT MORE THAN THE DOE WEAPONS FACILITIES.

WE WANT TO COOPERATE WITH YOU. COOPERATION WILL BE ESSENTIAL IF WE ARE TO MAKE PROGRESS IN SO MANY DIFFICULT AREAS.

STATEMENT OF HON. JAMES A. McCLURE, U.S. SENATOR FROM IDAHO

Senator **McClure**. Thank you very much, Mr. Chairman, and Admiral Watkins, welcome to the committee.

This is the first of many appearances you will make here. I suspect you do not even have the foggiest notion of how often you are going to be before the Congress in one committee or another over the course of the next year, following your confirmation as secretary.

I do ask, Mr. Chairman, that my opening statement be made a part of the record in full.

The **Chairman**. Without objection.

[The prepared statement of Senator McClure follows:]

OPENING STATEMENT
SENATOR JAMES A. McCLURE (R-ID)
CONFIRMATION OF ADMIRAL JAMES D. WATKINS
SECRETARY DESIGNATE, DEPARTMENT OF ENERGY
WEDNESDAY, FEBRUARY 22, 1989 (10:00 A.M.)

Much of the energy news in recent weeks has focused on the long-term problems associated with the operation of Department of Energy defense and non-defense facilities in a manner consistent with national environmental policies. Although many of these facilities are more than 40 years old and the Bush Administration has inherited, not created, these problems, you, Admiral Watkins, will be the man in the limelight or hot-seat charged with getting the situation effectively under control as quickly as possible.

I know you are aware of this matter in a general way, and I have no doubt you will hear a great deal more about it from other members of this Committee this morning. I also suspect you will hear a great deal about all the other problems and difficulties faced by the Department of Energy, including the current adequacy of the Department's capability for meeting Department of Defense strategic materials requirements in light of the continuing problems at Savannah River. Similarly, there is the very real need to get on with the development of two new production reactors in the shortest possible time frame.

Then there is the matter of the adequacy of the Strategic Petroleum Reserve in meeting our International Energy Agency obligations. As you are aware Admiral, the cornerstone of our present strategy for dealing with energy emergencies is the Strategic Petroleum Reserve. The very existence of such stocks has, in the short-term, served to dampen international oil prices throughout the Iran-Iraq war. By international agreement, we are obligated to maintain 90 days of net oil imports. During the Reagan Administration, we did well in this regard -- at its peak in 1985, the SPR provided us with 115 days of protection. However, even though the Reserve is growing in absolute terms, due to budget constraints and rising consumption the Bush Administration is faced with an erosion of our days of protection down to exactly 90 days. Unless something is done to offset the current decline, by 1995 the SPR will provide only 65 days of net imports

I suspect you will hear about the Department's continuing responsibility for the management of Federal research and development programs, about nuclear wastes, Federal power marketing agencies, uranium enrichment and the DOE national laboratories. Admiral, I know you will hear them all this morning and I know you will live and breathe them on a daily basis for many months to come.

While I would not in any way attempt to diminish the importance or the severity of any of the problems or issues you will face, I want to caution you not to lose sight of perhaps the most important task you should endeavor to undertake: The development and pursuit of a long-term, comprehensive, and consensus-based strategy to foster the efficient use of energy and energy production consistent with the protection of national environmental values.

As you are aware, today the United States is more dependent on foreign oil than it was prior to the 1973 Arab oil embargo. Domestic oil production has fallen and consumption has increased. The DOE's March 1987 Energy Security report predicts that by 1990 our dependence could reach 50 percent. If current trends continue, by 1995, only seven years from now, we could be dependent on imports for two-thirds of our oil.

Frankly, I am deeply disturbed by this prospect. As you know, what is at stake is our economic security, our foreign policy flexibility and our defense preparedness. Such vulnerability must not be allowed to occur.

What is missing is a national energy awareness. What little energy policy we now have is largely based on reliance on the marketplace rather than government to make decisions. While indeed we must rely on the market for part of our decisions, we are still groping for a true comprehensive national energy policy -- not just a quest for conservation or efficiency; not just the need for federal investment in energy research and development; not just the pursuit of helpful tax policies; and not just an effort to forge a regulatory climate in which private sector decisions are made without penalty from second-guessing regulators at a later time. Our energy problems exist not because we are short of energy, but because of the lack of a long-term, comprehensive, and consensus-based national energy strategy.

Mr. Chairman, faced with these and other problems, there is a clear need for a strong and articulate Secretary of Energy who can serve as the focal point in the Bush Administration in debates over national energy policy.

Based on your record, Admiral Watkins, I know you are up to the task and will bring to the position of Secretary of Energy many of the required strengths. I very much look forward to working with you.

Thank you Mr. Chairman.

Senator **McClure**. I will summarize very quickly. Because all of the news, nearly all of the news today is on the nuclear weapons complex, and you are going to hear an awful lot more about that in the questions today, I am certain, as we struggle to modernize and to bring these plants back into the condition that this nation has a right to expect that they will be, and maintain at the same time the necessary security for our country.

But I hope we do not forget that there is more to the department than the nuclear weapons complex questions, as tough as they are.

I know that it has been reported, it is no surprise to anyone, that the president, I am sure, looked at your qualifications in this area, and one of the reasons you are sitting on that side of the table today is because of your background and expertise in dealing with questions of that kind.

But there are others too. As you are aware, today the United States is more dependent on foreign oil than it was prior to the 1973 Arab oil embargo. Domestic oil production has fallen, and consumption has increased.

The DOE's March 1987 energy security report predicts that by 1990 our dependence could reach 50 percent. If current trends continue, by 1995, only seven years from now, we could be dependent on imports for two-thirds of our oil. And frankly, I am disturbed by that prospect.

As you know, what is at stake is our economic security, our foreign policy flexibility, and our defense preparedness. Such vulnerability must not be allowed to occur.

What is missing is a national energy awareness. I point to a number of factors in my opening statement with respect to where we ought to be going, and why perhaps we ought not get where we are headed right now.

But I will not take the time of the committee. All of the committee members have heard me before on these subjects. And you will have the opportunity, I am certain, to hear from this committee as well as from myself. Thank you, Mr. Chairman.

The **Chairman**. While we do not want to necessarily encourage other members to make opening statements, we do not want to prohibit it either. Senator Ford?

Senator **Ford**. Since you give me the opportunity, Mr. Chairman, I have no comments.

The **Chairman**. Thank you. Senator Domenici?

Senator **Domenici**. Ditto.

The **Chairman**. Senator Metzenbaum?

STATEMENT OF HON. HOWARD M. METZENBAUM, U.S. SENATOR FROM OHIO

Senator **Metzenbaum**. I wish I could be so accommodating, but I do have some thoughts that I would like to express. It will not be very long.

But I am pleased to welcome Admiral Watkins before the Energy Committee this morning, and I believe the position of energy secretary in the new administration will be one of the most challenging and difficult jobs in Washington.

I admire you, Admiral, for your willingness to confront the enormous tasks which lie ahead, and I am frank to admit that you come to us with a certain luster for the kind of job that you did in taking on the controversy regarding President Reagan's commission on AIDS, and for your no-nonsense management style while serving as chief of naval operations. I think this job will call upon your greatest and best talents.

Serious problems which currently plague the Department of Energy will require extraordinary solutions, and the new secretary must be willing to challenge current departmental policies and procedures, and bold and innovative approaches are needed or we are not going to make much headway.

Undoubtedly the most urgent problem has already been mentioned, that the Department of Energy involves repairing the broken-down nuclear weapons plants, cleaning up these environmental disaster sites, while maintaining the nation's ability to produce critical defense materials. That has to be your top priority.

For years we were told that the national defense necessitates that nuclear weapons production be cloaked in secrecy, outside of public and expert scrutiny. Now we see that the approach has produced the opposite effect, leaving the nation with a bill for over $100 billion in cleanup costs, and the total inability to produce critical nuclear materials.

Policies of the past have seriously harmed the environment, they have jeopardized human health and safety, and undercut national security. We need changes and we need them soon.

We need more emphasis on conservation, which has been a dead issue for the past eight years. We need to revisit alternative energy solutions which in the past have been spirited but wasteful and came into disrepute. They have been costly, but not very productive. Frankly, that need not be.

Admiral, I look forward to hearing your testimony today, and to working with you during the period of this administration. And I am hopeful that you will be a breath of fresh air in the Energy Department.

The CHAIRMAN. Thank you, Senator Metzenbaum. Senator Burns?

Senator BURNS. I have no comments at this time.

The CHAIRMAN. Thank you, Senator Burns. Senator Conrad?

STATEMENT OF HON. KENT CONRAD, U.S. SENATOR FROM NORTH DAKOTA

Senator CONRAD. I have got some awfully good stuff here, Mr. Chairman.

The CHAIRMAN. You always do.

Senator CONRAD. But I get the hint, and I would like permission to enter my statement into the record, and just make the observation that I had the chance to meet with the secretary-designate in my office. We had a very good meeting.

I was impressed by his professionalism, and most impressed by the way he dealt with the controversy of AIDS, which I thought was a superb job.

[The prepared statements of Senators Conrad, Bingaman, Heflin, and Rockefeller follow:]

STATEMENT OF

SENATOR KENT CONRAD

Kent C

ON THE NOMINATION OF JAMES D. WATKINS

TO BE SECRETARY OF ENERGY

I welcome Mr. Watkins to the Energy Committee. He comes to us with a distinguished record of service to his country, first as an admiral in the Navy, later as chief of Naval Operations, and most recently as chairman of the presidential commission on AIDS. Having met Mr. Watkins prior to the hearing today, I am confident that he will approach his new challenge at the Department of Energy with equal skill and resolve.

The most immediate problem facing the new Secretary of Energy will undoubtedly be the need to cleanup waste material associated with nuclear weapons plants of the Department. I am pleased that the President has selected someone like Mr. Watkins who has an extensive background in nuclear power.

Less immediate perhaps but equally important, is the need to develop a sound national energy policy. Although many of us will have differences with the new administration on this issue, I hope that the congress and the administration can work more closely than in previous years to forge new grounds for consensus.

As a Senator from a state that produces large amounts of oil, gas and lignite coal, I am particularly interested in the role that fossil fuels will play in energy policy. I support the Clean Coal Technology program, and I support strong R & D programs for fossil fuels that enable us to meet energy demands without impacting the environment adversely. North Dakota is also home to the only commercial-scale coal gasification plant, and people in my state are anxious to work with the Department of Energy to develop and apply the technological breakthroughs that have occurred at that facility.

Energy is often taken for granted in our society because our resources are generally plentiful. We must be mindful, however, that strong research, wise development and careful stewardship will be the keys to our energy future. I look forward to working with Mr. Watkins and his colleagues to secure that future.

Statement by Senator Jeff Bingaman
Confirmation Hearing of James D. Watkins
February 21, 1989

Mr. Chairman, I intend to support the nomination of Admiral James D. Watkins to be Secretary of Energy. Admiral Watkins is eminently qualified to lead the Department of Energy. One of the most pressing problems facing the country at this time is the deteriorating condition of our nuclear weapons complex. As the only member of the Senate who serves on all three authorizing committees Energy, Armed Services, and Government Affairs, with greatest interest in the matter. I am concerned that we give you the resources needed to correct our past neglect of this complex. To do this and do it right, there is no doubt that you are going to need a longer fraction of the national security budget, the 050 account, in the future. As a former CNO, Admiral Watkins will be in a position to argue for those resources and provide the leadership needed to restore public confidence in our nuclear program.

Admiral Watkins also understands the importance of developing a national energy policy that makes use of all our domestic energy sources, whether nuclear, oil and gas, solar, geothermal, or other alternatives.

For the past eight years, this country has had no energy policy, nor has the Department of Energy made any real effort to develop one. We have witnessed the continued decline of federal programs designed to spur the development and enhancement of domestic energy sources. In lieu of a comprehensive energy policy, the United States has continued to increase its dependence of imports to meet our energy needs. This increasing dependence on foreign energy sources undermines our domestic national security. Admiral Watkins appreciates this threat, and I am encouraged that he is committed to developing a policy that reduces our dependence on imports.

Statement by Senator Jeff Bingaman
Confirmation Hearing of James D. Watkins
February 22, 1989
Page 3

New Mexicans are especially interested in the nomination of Admiral Watkins. My state has a long tradition of supporting our nation's energy future, through its abundant reserves of oil and gas and coal and with the important contributions of our two national laboratories, Sandia and Los Alamos.

Citizens from my state are particularly concerned with the decline in the oil and gas industry over the past five years. This decline is evident from a review of national oil and gas statistics in 1988. These statistics also reflect the trends in New Mexico.

The United States had its lowest level of production and drilling in 1988 since records have been kept (1940). We are at less than 8 million barrels/day.

We just had the slowest January on record with a national rig count under 800. This compared to a high of 3970 in 1981.

Imports counted for 42% of national oil use last year and may exceed 50% by 1992. This is compared to 36% in 1973.

OPEC counts for one-half of these imports, compared to 36% in 1973. Arab OPEC countries accounted for 35% of the import activity in 1988 compared to 15% in 1973.

U.S. is the only major producing area in the world where crude oil output has fallen.

At the same time, petroleum consumption is continuing to increase (4.4% in 1988) and imports will continue to fill the gap.

One of the greatest losses to our domestic industry is our loss of infrastructure, which cannot easily be replaced. Several hundreds of thousands rig workers, petroleum engineers and geologists have lost their jobs and many will never return to the industry.

With the disturbing facts I have just cited, I think we have genuine reason to worry about our energy security and the continued viability of our domestic oil and gas industry.

Statement by Senator Jeff Bingaman
Confirmation Hearing of James D. Watkins
February 22, 1989
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Admiral Watkins, you have an extraordinary opportunity to make a significant contribution to this nation through your leadership at DOE. I offer my assistance to you in your efforts.

SENATOR HEFLIN
ON THE
CONFIRMATION HEARING
OF
RETIRED ADMIRAL JAMES D. WATKINS
TO BE THE
U.S. SECRETARY OF ENERGY
WEDNESDAY, FEBRUARY 22, 1989
10:00 A.M.

MR. CHAIRMAN AND ADMIRAL WATKINS, GOOD MORNING!

I'M DELIGHTED TO WELCOME YOU, ADMIRAL WATKINS, TO THIS LONG-AWAITED CONFIRMATION HEARING. AS A FORMER NUCLEAR SUBMARINE SKIPPER, I BELIEVE THAT YOU WOULD BRING TO THE DEPARTMENT THE VERY GOOD CREDENTIALS NEEDED TO TACKLE THE DEPARTMENT'S FIRST -- AND PERHAPS -- BIGGEST PROBLEM: THE CLEAN-UP OF OUR NATION'S NUCLEAR POWER PLANTS. AS YOU ARE WELL AWARE, THE 101ST CONGRESS PLANS TO DEVOTE A GREAT DEAL OF TIME DEBATING THE FUNDING LEVEL REASONABLY NECESSARY FOR THE SAFETY AND CLEAN-UP PROBLEMS OF OUR NUCLEAR PLANTS FOR THE PRODUCTION OF NUCLEAR WEAPONS AND MATERIALS. THESE ARE FACILITIES WHICH WOULD FALL UNDER YOUR JURISDICTION AND SUPERVISION AT THE DEPARTMENT OF ENERGY (DOE). TIME IS OF THE ESSENCE, AND WE MUST DEAL WITH THESE PROBLEMS HEAD-ON.

HOW DO WE BALANCE OR PRIORITIZE NUCLEAR SAFETY CLEAN-UP AND PROPER DISPOSAL OF RADIOACTIVE WASTE AGAINST PRESERVING AND ENHANCING OUR NATION'S NUCLEAR DETERRENCE BY PRODUCING MORE NUCLEAR WEAPONS? THE 7-MONTH OLD CLOSING OF DOE'S SAVANNAH RIVER PLANT (AS A RESULT OF A CRACK IN THE COOLING SYSTEM OF A REACTOR AT THE FACILITY) MEANS THAT AMERICA'S SOLE SOURCE OF TRITIUM -- A RADIOACTIVE GAS USED IN MOST NUCLEAR WARHEADS -- HAS BEEN SHUT DOWN.

ADMIRAL WATKINS, YOU EARNED VERY HIGH MARKS FOR YOUR EFFECTIVE LEADERSHIP OF THE ONCE-FOUNDERING PRESIDENTIAL COMMISSION ON AIDS. I HOPE THAT YOU CAN TRANSFER YOUR STRONG LEADERSHIP ABILITIES, YOUR OBVIOUS INTELLIGENCE AND STRONG NUCLEAR BACKGROUND TO DOE AND HELP THE 101ST CONGRESS DO A YEOMAN'S JOB IN SOLVING OUR CIVILIAN NUCLEAR PLANT WOES.

BY THE WAY, ADMIRAL, YOU MENTIONED TO ME DURING YOUR RECENT COURTESY VISIT TO MY OFFICE YOUR LACK OF EXPERIENCE WITH FOSSIL FUELS. I UNDERSTAND THAT YOU HAVE CHOSEN A VERY CAPABLE EXPERT IN THE PERSON OF FORMER REPRESENTATIVE W. HENSON MOORE OF LOUISIANA FOR THE #2 SLOT IN THE DEPARTMENT TO HANDLE THE OIL AND GAS ISSUES. I COMPLEMENT AND CONGRATULATE YOU ON THIS EXCELLENT CHOICE FOR THE SECOND-IN-COMMAND PERSON AT DOE.

BEST WISHES FOR A SMOOTH AND SUCCESSFUL CONFIRMATION HEARING.

Statement of Senator Rockefeller
Before the Senate Committee on Energy and Natural Resources
On the Nomination of Admiral James Watkins
To Be Secretary of Energy
February 22, 1989

I am pleased to have the opportunity to commend Admiral James Watkins for his distinguished public career and for his reputation as a problem solver. Unfortunately, the state of our energy programs is such that the country is in very urgent need of his skills. The agenda ranges from the very serious problems recently revealed in our nuclear program to the need to place greater emphasis on the importance of the role of coal in our energy policy.

As a distinguished naval officer, Admiral Watkins knows well the threat to our national security from our growing dependence on imported oil. Lately, questions have also been raised by some regarding newly perceived environmental issues which should be examined.

All of this demands the kind of attention to overall energy policy which I believe has been lacking in recent years. Briefly stated, what we lack and what we badly need in energy policy is a new sense of balance and improved foresight. Just as we depend on a triad, rather than a single weapon, in our strategic military deterrent, we must maintain strength in the various energy resources with which our country is endowed. The assumption that we can become dependent on imported oil, because it is now cheap, will become a very expensive assumption in the long run.

Also, the neglect in recent years of the need to look ahead is illustrated by repeated budget proposals to slash coal and other energy research. I have been an advocate of encouraging demonstration of alternative fuels and of stepped up research and development in other energy areas because I believe we must anticipate future energy problems. For the sake of our economic as well as our military security, we must never again be caught short. If we are to prevail in a world of dwindling resources and fierce international rivalry, we must declare an end to drift, we must look ahead, and we must take the initiative.

In all of these things, I look forward to working with Admiral Watkins and with the new Administration.

The **Chairman**. Thank you very much, Senator Conrad. Admiral Watkins, as you can see, we are going to try to be accommodating to you in this committee not just today but throughout the year, in trying to keep your time on the Hill to a minimum because you have got a lot of management duties. So we are going to try to do that. I do not know whether we are going to be successful, but we will try.

There are two distinguished senators here to introduce you, first Senator Hatfield, our committee member and great friend.

STATEMENT OF HON. MARK O. HATFIELD, U.S. SENATOR FROM OREGON

Senator **Hatfield**. Thank you, Mr. Chairman, and my colleagues on the committee.

First permit me to introduce the auxiliary support team, composed of some very distinguished people. First, Admiral Watkins' wife, Sheila. I would like to have her be identified.

The **Chairman**. Welcome, Mrs. Watkins.

Senator **Hatfield**. Mrs. Eleanor Rickover. Admiral Watkins' niece and nephew, Catherine Watkins and Steven Watkins. And Admiral and Mrs. Watkins' daughter, Catherine Coopersmith.

Mr. Chairman, this is a little different side of the dais from which I normally sit, and I consider it not only an important opportunity and privilege to be on this side but the task which brings me here is to have the high honor of introducing Admiral James D. Watkins, who I believe to be one of President Bush's finest cabinet appointments.

My association with the Admiral dates back from the time of his service as chief of naval operations. I had the opportunity to interact with Admiral Watkins at that time in that important position through the appropriations process, and was able to acquaint myself with many of the issues relating to funding the Navy.

I must say to you, Mr. Chairman, that in my days as a junior grade lieutenant in the United States Navy, the chief of naval operations was very close to God. And the part of that holy family was the secretary of the navy, the chief of naval operation, and SINCPAC.

I really believe that the only redeeming factor of Franklin Roosevelt was the fact that he had a connection with the United States Navy. Now, that gives you a little background of why this is such a high honor for me to be sitting next to a chief of naval operation, more especially to learn to know that they are human beings and they are people who put their pants on one leg at a time.

Now, since that time, the Admiral and I have established many common bonds beyond our official relationship in the appropriations process, that includes a friendship of our wives, friendship among mutual acquaintances, and the sharing of educational and spiritual ideals.

Out of this friendship grew an admiration that brings me here today, that allows me to speak with conviction regarding the qualities that Admiral Watkins will bring when confirmed as secretary of the Department of Energy.

I believe that Admiral Watkins is the true embodiment of what I, as a former educator, call the totally educated person, sound in mind, body and spirit. Not only does this denote an intellect shaped by excellent education, but the values and morals to use that knowledge wisely.

As all of you are aware, the Admiral enjoys an outstanding career as a navy person, rising from the ranks to become the Navy's 22nd chief of naval operations. Along the way he served on destroyers, cruisers, and submarines, all of Jane's fighting ships.

He is probably best known as a key participant in Admiral Hyman Rickover's nuclear propulsion program. And for those of us who had the privilege of knowing Admiral Rickover, understand that anybody who was not just educated but who survived the process of education under Admiral Rickover had to be a person of extraordinary qualifications and physical and mental strength.

I am sure that I do not need to recite the potential benefits this country will reap by having a secretary of energy that is well-versed in nuclear engineering.

In addition to possessing technical expertise, the secretary-designate has demonstrated considerable ability as an administrator.

Just as we know that every excellent legislator may not make a good administrator, or that every good administrator may not make a good legislator, the naval career of Admiral Watkins, including his role as chief of naval operations, has demonstrated his ability to deal in administrative activities, and to do them well.

He has done this in part because he has recognized the human element in the equation, and too frequently people do not get beyond administrative procedures as a system of mechanics, pure mechanics.

But in all cases the Admiral has recognized the human side of the service. He was involved in the establishment of several programs designed to enhance the professionalism, the image, the esprit de corps of those who serve in the Navy.

Admiral Watkins continued to display his administrative ability after he retired from the Navy. Witness his performance as the chairman of the President's Commission on AIDS.

Before his appointment in October of 1987, the commission had bogged down in a sea of dispute and uncertainty. Once again, Admiral Watkins answered the call to a general quarters situation.

Largely due to his skill in mediation, organization, and leadership, the Commission resolved their difficulties and moved forward to issue a report that has met with acclaim from both the medical community and from those concerned with the social impact of AIDS.

Mr. Chairman, aside from his leadership abilities, some may have wondered what a retired admiral was doing at the helm of a commission dealing with a public health crisis.

Let me tell you. Admiral Watkins' commitment to the welfare of people so aptly demonstrated during his military service was continued after he left the Navy. He became a member of the Carnegie Council on Adolescent Development, and the Math Science Advisory Council of the National Executive Service Corps.

Through these organizations, Admiral Watkins was able to demonstrate that proper education, health, and motivation of America's youth is a key building block for the future security of this country.

This social consciousness, this ability to understand that people are what make up great institutions, and in turn great nations, is part of what makes Admiral Watkins an understanding public servant in many fields.

I have no doubt that this viewpoint will also be integral to solving some of the current problems at the Department of Energy.

As I say, I must confess, being a former lieutenant JG in the Navy, I have a certain amount of pride and bias when it comes to seeing a distinguished naval officer appointed to high office.

However, I must concede that the job Admiral Watkins faces is not an easy one. As my colleagues on the Energy and Natural Resources Committee are aware, it may be appropriate to use military metaphors in describing the Department of Energy.

In essence, the department has been under siege. Day after day we have been bombarded by articles in the major newspapers, charging the department with mismanagement and waste, both literally and figuratively.

While these charges have primarily centered on DOE's handling of defense production reactors, other facets of the department have also been under attack.

For example, in a recent editorial, the Washington Post claimed that the Department of Energy has lost most of its best people under the Reagan Administration's neglect.

Mr. Chairman, while I must conclude that much of that paper's report on DOE is on target, I would like to suggest that the Post has erred in this particular assessment. The Department of Energy is still full of talented people.

What the department is missing is a broader sense of mission, and the morale to achieve it. It is in this area that I believe the appointment of Jim Watkins can be most beneficial.

Much has been made of his wealth of experience in the nuclear field, and also his relative lack of experience in other areas of energy policy.

Let me suggest that what is most important right here, right now, is not an intricate knowledge of all of the issues. Certainly he must and will develop that knowledge, with the help of the talented people he will attract from both inside and outside the department.

What is most important, however, is the Admiral's ability to bring a proven record of quality leadership to the office of secretary. The credibility, talent, and inspiration that he has shown and known for, in my opinion, can make all the difference between a department that is successful and one that is not.

That is why I intend to vote to confirm Admiral Watkins as the next secretary of energy, and I urge each of my colleagues to do the same. Thank you, Mr. Chairman.

The **Chairman**. Thank you very much, Senator Hatfield. I share your view of Admiral Watkins.

Senator Wilson?

STATEMENT OF HON. PETE WILSON, U.S. SENATOR FROM CALIFORNIA

Senator WILSON. Thank you very much, Mr. Chairman. I first would like to congratulate your distinguished Member and our friend and colleague, Mark Hatfield, for what I think to be an eloquent introduction of Admiral Watkins that, if it is possible to do justice to the man, came very close.

In the interests of your time and his, I will simply summarize some comments, really dwelling upon two points which have been made already, the first made by you, Mr. Chairman, in the emphasis that you have given to the necessity for early and adequate attention to the problems of the weapons complex, and secondly the point that Senator Hatfield has made with proper force, I think, the point about the tremendous leadership that Admiral Watkins will bring to a subject in which he has already an impressive background as it relates to the nuclear side, but a much more impressive record of achievement as an inspiring leader.

I think these are two points that properly are before the committee. As the committee is obviously aware, and as you have been told, he has an enormously impressive record.

As you have been told, he was part of Admiral Rickover's pioneering efforts in the nuclear navy, having served as commanding officer of a nuclear-powered attack submarine, and then the executive officer of the world's first nuclear-powered cruiser, the Long Beach.

By the way, that is appropriate, it seems to me, because originally Admiral Watkins is a son of Long Beach, a fact of which we are very proud in California.

I might add by way of comment, as I listen to Senator Hatfield recall his attitudes as a lieutenant junior grade. When I was a 21-year old second lieutenant in the Marine Corps, my own acquaintance among flag officers was similarly limited.

I was perhaps even more impressed, and in fact it seemed to me that anyone who was field grade, much less flag officer, might be approaching senility. I might say I have accommodated that point of view with the passage of time.

But I am no less impressed with certain chiefs of naval operations now than at that tender age. And I am particularly impressed with this one because, as you have been told, he has brought inspiring leadership, not only to the Navy, in a succession of leadership posts, culminating in his service as the chief of naval operations, but he did come at a time when the AIDS Commission was founded.

And it might well have been asked, and indeed I know the Admiral asked himself why it was that a chief of naval operations recently retired was in this unenviable position. And it was because a number of people, and I among them, had thought that he demonstrated the qualities of leadership that were necessary to rescue that operation and make of it the success which in fact he did.

What they produced in short was an aggressive and a compassionate and a wise program, Congress has reached with legislation a portion of it, I think we need to give additional attention to what was produced by Admiral Watkins in that commission.

But here in a field utterly alien to anything that he had known, this man brought the kind of good sense, the kind of ability to get people of disparate mentality and attitude to work together toward a solution that I think does call into—does call for the kind of attention that has been given to his ability to form a team and dealing with the most complex possible subject, give it the personal leadership necessary to produce results, solutions, in an area that seemed to defy them.

So once again he is thrust into that situation, and I must say that I think President Bush has made an inspired choice, precisely because of the qualities, the demonstrated abilities, of the nominee, whether it be in the field of health care, dealing with what is in fact a pandemic, with an organization of the size and complexity and diversity of the United States Navy, where now the daunting challenges of putting right, giving that sense of mission, of which Senator Hatfield spoke, the energies of those within the Department of Energy. I really cannot think of anybody that I think better suited to that challenge than Jim Watkins.

So I thank you for the opportunity to appear before you and try to add that personal point of view to his introduction.

The CHAIRMAN. Thank you very much, Senator Wilson. Admiral Watkins, the rules of the committee which apply to all nominees require that they be sworn in connection with their testimony.

[Whereupon, Admiral Watkins was duly sworn by the Chairman.]

The CHAIRMAN. Please be seated. Before you begin your statement, I will ask you three questions addressed to each nominee before this committee.

Will you be available to appear before this committee and other congressional committees to represent departmental positions and respond to issues of concern to the Congress?

Admiral WATKINS. I will, Mr. Chairman.

The CHAIRMAN. Are you aware of any personal holdings, investments, or interests which could constitute a conflict of interest or create the appearance of such a conflict should you be confirmed and assume the office to which you have been nominated by the president?

Admiral WATKINS. No, sir, I do not. My investments, personal holdings, and other interests have been reviewed both by myself and the appropriate ethics counselors within the Federal government, and I have taken appropriate action to avoid any conflicts of interest.

There are no conflicts of interest or appearances thereof, to my knowledge.

The CHAIRMAN. Are you involved or do you have any assets held in blind trusts?

Admiral WATKINS. No, sir. I do not.

The CHAIRMAN. I thank you, Admiral Watkins, and you may proceed. If you would like to put in your opening statement, or if you would like to summarize it, you may do as you wish.

STATEMENT OF ADM. JAMES D. WATKINS, U.S. NAVY (RETIRED), NOMINEE TO BE SECRETARY OF ENERGY

Admiral WATKINS. Thank you, Mr. Chairman. I am honored to appear before you today as President Bush's nominee for the position of Secretary of Energy, a leadership position recognized as vital to our nation's future.

Let me emphasize at the outset my clear recognition that if confirmed as Secretary of Energy, I will need to work closely with this committee and other interested congressional leaders.

I intend to carry out my duties as Secretary in that spirit of cooperation so well articulated by the President in his inaugural address.

I have spent most of my professional life in operational and policymaking roles within the nuclear navy. Perhaps my most important experiences in the Navy came when I trained and served directly under Admiral Rickover.

I learned from him that fulfillment of the mission of our national defense and the protection of the environment were mutually compatible objectives, and that to think one must be sacrificed to achieve the other was wrong.

It is my strongly-held personal conviction that DOE's mission can be considered as being successfully completed only if it is carried out safely and without insult to public health or environment.

This principle is the bedrock on which the operating disciplines of the nuclear navy have been built, and accounts for the impressive record of more than 30 years there without significant reactor incident.

The other operating principle ingrained in me by Admiral Rickover was that of the importance of personal responsibility and accountability, the commitment to excellence by every individual as the essential ingredient for success of the program.

The human component is always the centerpiece of Navy technological operations. All that fancy technology is useless and perhaps even a threat to society unless we properly educate and train those entrusted with its proper operation in all aspects of its design limitations.

The essentiality of human performance was Admiral Rickover's personal legacy to me, to expect nothing less than excellence from each participant in the reactor plant team. And I have used this principle successfully throughout my naval career and in my brief association with the private nuclear industry.

A few weeks ago, then-President-elect Bush announced my nomination to be Secretary of Energy. At the time many people noted my nuclear background and suggested that the President selected me to be the "Secretary of Nuclear Energy."

While I expect to focus initially on the very serious problems our nation faces with regard to cleanup of nuclear waste and putting our nuclear defense operations back on track, I want to state clearly that I intend to function fully as the Secretary of Energy, and will be extremely active in all parts of departmental management and policy development.

Throughout his campaign, in his inaugural address, and in his budget proposal, the President has articulated a new direction for this nation's energy policy, one that cleans up the problems of the past and gives incentives America needs to build a future that is energy-independent, healthy, and safe. I want to reiterate my strong support for these principles.

I will now comment first on the Department's nuclear programs since they have certainly received the most attention in recent months.

I have learned enough about the defense program side of the Department of Energy just in the past few weeks to know that there is an urgent need to affect a significant change in its deeply-imbedded 35-year culture.

By use of the word "culture" I mean that set of values that permeates the work atmosphere within which operations take place. For a variety of reasons, DOE's defense program has not been brought into line with nearly all other public and private nuclear ventures that have now capitalized on lessons learned during the intervening 10-year period since Three Mile Island.

As has been the case in other facilities in the past, the DOE defense program has a culture not yet educated or trained to understand each individual's shared responsibility and accountability for safe, reliable, reactor plant operations.

With the right working atmosphere, avoidance of exceeding established environmental limits becomes the natural and the visceral imperative of every person involved.

The DOE culture has evolved from such heavy emphasis on achieving defense production goals, made within an atmosphere of collegial secrecy, that problems relating to safety, health, and the environment have not only been backlogged to intolerable levels, but in effect hidden from public view until recently. So we are now paying the price for this long-term cultural misdirection.

I have read the letter to President Bush recently signed by six governors deeply involved in nuclear waste issues. I found their pleas to be valid, balanced, and coupled to sensible recommendations.

If I may quote one sentence which provides the theme of their letter, it would be, "to make environmental safety and health concerns as much a part of USDOE's agenda as production." This principle makes eminently good sense to me.

The job of affecting fundamental cultural change is obviously more difficult than changing equipment. It will require a new brand of informed and inspirational leadership, beginning with me and permeating down through every level of management, both within the Department of Energy and without, to its field offices and contractors.

I will organize a management team that understands how to motivate people, how to achieve and reward excellence, and how to reject and deal firmly, fairly and swiftly with incompetence.

Currently, for example, there is little risk in being careless, little incentive to excel. I know it is possible to create a culture in which people are eager to uncover, to share both bad and good news, to correct root causes to those problems, and to be proud in doing so, so that peer pressure shifts towards the excitement of excellence.

That is what the United States must have in the Department of Energy, and this is what we must demonstrate to you and all

Americans so that we in the Department of Energy can regain the credibility needed to get on with the complex energy-related tasks at hand. I intend to take the Energy Department in that direction if confirmed by you.

The management of radioactive waste presents nearly the same challenges as the weapons production complex in bringing sensible balance between competing needs. The principle is the same. Safety, health, and environmental standards are religiously met in concert with both civilian and defense objectives.

The President's 1990 budget proposal includes strong, clear, and much-needed initiative to implement these standards at nuclear waste facilities and to upgrade those facilities as needed.

Well designed and technically maintained facilities are necessary, true. But only a strong common culture of the type I outlined will assure that, for example, waste will be handled, processed, and finally stored in compliance with those safety standards to which Federal, state, and responsible local authorities are full partners.

Apart from nuclear programs, the Department of Energy has major responsibilities in connection with energy research, the resultant applied technology and the development of a sound energy policy coupled to an integrated strategy to carry out the policy.

The Department's research programs include projects that will provide the nation with new and powerful tools for unlocking more of nature's secrets.

The clean coal technology program, which will be one of my greatest personal interests, is developing and demonstrating new, cleaner, and more energy-efficient ways to use our most abundant natural resource in a manner consistent with the nation's environmental goals.

The Department also supports research and development aimed at developing solar and other renewable energy sources that may provide the nation with much of its energy needs in the next century.

The programs are aimed at improving the quality of life for all the nation's citizens by finding ways to use energy more efficiently and economically, with greater safety and security, and with the goal of ensuring a cleaner, more wholesome environment. If confirmed as Secretary of Energy, I intend to be an advocate of these important programs.

There are a number of issues that we will be facing over the next few years that center on the means by which we produce and consume energy.

Most notable is the growing concern over our increasing dependence on insecure supplies of imported oil. The President has stated his firm conviction that we must have a strong domestic oil and gas industry, because the United States cannot afford to be too dependent upon such imports.

President Bush has also proposed new tax credits for exploration and modification of the oil and gas depletion rules to make use of the full resources of all existing wells.

In future years, all proven energy resources will be needed in a sensible, economic mixture to meet the nation's energy needs.

Movement toward such a mixture will be one objective of what I hope will be a rapidly-evolving energy strategy, well-connected to the legitimate environmental concerns which cannot be separate from the panoply of energy sources themselves.

We are all aware of possible threats posed by global climate change, and realize that any modernized energy policy must be sensitive to the degree to which production and use of energy contribute to the potential for unattractive and potentially devastating environmental conditions for future generations here and around the world.

While we continue supporting research efforts aimed at reducing the scientific uncertainties regarding global climate change, we should continue in the interim to develop more efficient and cost-effective combustion technologies and alternate energy sources so as not to exacerbate conditions if some of the more disturbing of the scientific analyses now coming out become the consensus of thoughtful minds.

As I view the situation, certain actions to avoid to the extent reasonable injecting infra-red absorbers into our own atmosphere are justified, even if there were no global warming threat.

This is so because the same actions simultaneously favor economics, contribute to our energy security, and enhance the nation's environmental quality.

I know that the Department of Energy's national laboratories are home to some of the world's brightest and most innovative scientists and engineers. These creative minds are a precious national asset, and will be encouraged not only to continue their basic research, but also to improve the process by which new technologies are transferred to American industries, small business, and universities.

The laboratories will also have a growing role in helping high schools and universities motivate young people to seek vocations as scientists, mathematicians, and engineers of tomorrow.

We are simply not doing enough in our nation to encourage young people, and particularly the growing number from minority backgrounds, to pursue careers in science and engineering.

The people who manage and staff the department's programs, like the men and women in government with whom I have worked throughout my career, are proud and devoted public servants.

They must be valued as key underpinnings of the organization, and inspired to hone their skills and live up to their God-given maximum potential. This is what I call personal excellence, a motivated, healthy, and skilled group of individuals who believe that they own a part of America critical to her well-being.

The challenges facing the department will require a concerted effort to generate such an environment in order to recruit and train employees who can maintain the high standards of professional competence needed to manage the entire spectrum of technological entities that make up the Department of Energy complex, defense and non-defense.

If I can achieve this, my number one objective of leading this Department to high standards of personal excellence in each employee, I will have left the greatest legacy when I step down.

Mr. Chairman, I would like to conclude by saying that we have a lot of work to do. We need to better manage our nuclear weapons facilities to ensure that they are environmentally sound and that they are safe to work in and live near.

We need to find that harmoniously-balanced formula for all sources of energy that brings energy needs into sensible balance with legitimate concerns with safety, health, and environment.

We need to develop over the next few years an integrated energy strategy which can encapsulate the now-seemingly intractable issues under one integrated set of actions that the majority of Americans will judge as both fair and sensible.

To achieve these objectives, I look forward, if confirmed, to serving President Bush as Secretary of Energy and working in particular with the members of this committee and other related Hill members whose interests are shared with you. Thank you, Mr. Chairman.

[The prepared statement of Admiral Watkins follows:]

STATEMENT
OF

JAMES D. WATKINS
ADMIRAL, U.S. NAVY (RETIRED)

NOMINEE FOR THE POSITION OF
SECRETARY OF ENERGY

BEFORE

THE SENATE COMMITTEE ON
ENERGY AND NATURAL RESOURCES

FEBRUARY 22, 1989

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

I AM HONORED TO APPEAR BEFORE YOU TODAY AS PRESIDENT BUSH'S NOMINEE FOR THE POSITION OF SECRETARY OF ENERGY, A LEADERSHIP POSITION NOW RECOGNIZED AS VITAL TO OUR NATION'S FUTURE.

LET ME EMPHASIZE, AT THE OUTSET, MY CLEAR RECOGNITION THAT IF CONFIRMED AS SECRETARY OF ENERGY, I WILL NEED TO WORK CLOSELY WITH THIS COMMITTEE AND OTHER INTERESTED CONGRESSIONAL LEADERS. I INTEND TO CARRY OUT MY DUTIES AS SECRETARY IN THAT SPIRIT OF COOPERATION SO WELL ARTICULATED BY THE PRESIDENT OF THE UNITED STATES IN HIS INAUGURAL ADDRESS. OUR GOAL WILL BE TO USE OUR SKILL, OUR WISDOM, AND AMERICA'S ABUNDANT ENERGY RESOURCES TO CREATE AN ENERGY-INDEPENDENT NATION THAT HAS PRESERVED--AND EVEN ENHANCED--ITS ENVIRONMENT.

I HAVE SPENT MOST OF MY PROFESSIONAL LIFE IN OPERATIONAL AND POLICY-MAKING ROLES WITHIN THE NUCLEAR NAVY. PERHAPS MY MOST IMPORTANT EXPERIENCES IN THE NAVY CAME WHEN I TRAINED AND SERVED DIRECTLY UNDER ADMIRAL RICKOVER. I LEARNED FROM HIM THAT THE FULFILLMENT OF THE MISSION OF OUR NATIONAL DEFENSE AND THE PROTECTION OF THE ENVIRONMENT WERE MUTUALLY COMPATIBLE OBJECTIVES, AND THAT TO THINK ONE MUST BE SACRIFICED TO ACHIEVE THE OTHER WAS WRONG. IT IS MY STRONGLY HELD PERSONAL CONVICTION THAT DOE'S MISSION CAN BE CONSIDERED AS BEING SUCCESSFULLY COMPLETED ONLY IF IT IS CARRIED OUT SAFELY AND WITHOUT INSULT TO PUBLIC HEALTH OR ENVIRONMENT. THIS PRINCIPLE IS THE BEDROCK ON WHICH OPERATING DISCIPLINES OF THE NUCLEAR NAVY HAVE BEEN BUILT AND ACCOUNTS FOR THE IMPRESSIVE RECORD OF MORE THAN THIRTY YEARS THERE WITHOUT SIGNIFICANT REACTOR INCIDENT.

THE OTHER OPERATING PRINCIPLE INGRAINED IN ME BY ADMIRAL RICKOVER WAS THAT OF THE IMPORTANCE OF PERSONAL RESPONSIBILITY AND ACCOUNTABILITY, THE COMMITMENT TO EXCELLENCE BY EVERY INDIVIDUAL AS THE ESSENTIAL INGREDIENT FOR SUCCESS OF THE PROGRAM. THE HUMAN COMPONENT IS ALWAYS THE CENTERPIECE OF NAVY TECHNOLOGICAL OPERATIONS. ALL THAT FANCY TECHNOLOGY IS USELESS, AND PERHAPS EVEN A THREAT TO SOCIETY UNLESS WE PROPERLY EDUCATE AND TRAIN THOSE ENTRUSTED WITH ITS PROPER OPERATION IN ALL ASPECTS OF ITS DESIGNED LIMITATIONS. THE ESSENTIALITY OF HUMAN PERFORMANCE WAS ADMIRAL RICKOVER'S PERSONAL LEGACY TO ME, TO EXPECT NOTHING LESS THAN EXCELLENCE FROM EACH PARTICIPANT IN THE REACTOR PLANT TEAM. I HAVE USED THIS PRINCIPLE SUCCESSFULLY THROUGHOUT MY NAVAL CAREER AND IN MY BRIEF ASSOCIATION WITH THE PRIVATE NUCLEAR INDUSTRY.

SINCE MY RETIREMENT AS THE CHIEF OF NAVAL OPERATIONS (CNO) IN JULY OF 1986, AFTER SPENDING 41 YEARS IN THE NAVY, I HAVE HAD THE OPPORTUNITY TO WORK IN TWO AREAS WHICH, WHILE THEY AT FIRST DO NOT SEEM TO HAVE MUCH TO DO WITH MY NEW

ASSIGNMENT, ACTUALLY HAVE HAD A PROFOUND IMPACT ON MY THINKING. FIRST, I HAVE WORKED WITH SCHOOL OFFICIALS, MEMBERS OF COMMUNITY-BASED ORGANIZATIONS AND PARENTS TO PROMOTE A PROGRAM OF PERSONAL EXCELLENCE IN OUR SCHOOLS. AS CNO, I BECAME CONVINCED THAT WE WERE NOT DOING ENOUGH IN THIS NATION TO DEVELOP OUR MOST IMPORTANT NATURAL RESOURCE FOR THE FUTURE, OUR YOUNG PEOPLE. WITHOUT IMMEDIATE ATTENTION, THIS CONTINUING LOSS OF OVER ONE MILLION YOUNG PEOPLE A YEAR, WHO DROP OUT OF SCHOOL AND BECOME INVOLVED IN CRIME, USE OF ILLICIT DRUGS, AND TEENAGE PREGNANCY WILL SLOWLY ERODE THE ABILITY OF OUR NATION IN THE FUTURE. SO, FOR THE LAST TWO YEARS I HAVE SPENT MUCH OF MY TIME ESTABLISHING PROGRAMS FOR YOUNG PEOPLE WHICH COMBINE ELEMENTS OF COMMUNITY SERVICE, ENHANCED FUNCTIONAL LITERACY AND IMPROVED HEALTH SERVICES.

IN OCTOBER OF 1987, PRESIDENT REAGAN ASKED ME TO TAKE OVER THE CHAIRMANSHIP OF THE PRESIDENTIAL COMMISSION ON THE HUMAN IMMUNODEFICIENCY VIRUS EPIDEMIC AND PLOT A RATIONAL COURSE OF ACTION FOR THE NATION ON THE DIFFICULT ISSUE OF AIDS. WHILE THE TASK OF PUTTING TOGETHER THIS STRATEGY WAS ONE OF THE TOUGHEST I EVER FACED, I AM VERY PROUD OF OUR FINAL REPORT, WELL RECEIVED BY MOST THINKING AMERICANS. AS A RESULT, I KNOW IT IS POSSIBLE TO DEVELOP SOLID AND RATIONAL PUBLIC POLICY EVEN UNDER THE WORST CIRCUMSTANCES. IN THE CASE OF THE AIDS COMMISSION, WE WERE ABLE TO DISCERN SUCH POLICY FROM LISTENING TO HUNDREDS OF KNOWLEDGEABLE WITNESSES, AND CLEARLY IDENTIFYING THE SENSIBLE CENTRIST APPROACH MOST AMERICANS FAVOR. I WILL TAKE A COMPARABLE APPROACH IF YOU ALLOW ME TO ASSUME THE ENERGY ROLE.

A FEW WEEKS AGO, THEN PRESIDENT-ELECT BUSH ANNOUNCED MY NOMINATION TO BE SECRETARY OF ENERGY. AT THE TIME, MANY PEOPLE NOTED MY NUCLEAR BACKGROUND AND SUGGESTED THAT THE PRESIDENT SELECTED ME TO BE THE "SECRETARY OF NUCLEAR ENERGY." WHILE I EXPECT TO FOCUS INITIALLY ON THE VERY SERIOUS PROBLEMS OUR NATION FACES WITH REGARD TO CLEANUP OF NUCLEAR WASTE AND PUTTING OUR NUCLEAR DEFENSE OPERATIONS BACK ON TRACK, I WANT TO STATE CLEARLY THAT I INTEND TO FUNCTION FULLY AS THE SECRETARY OF ENERGY, AND WILL BE EXTREMELY ACTIVE IN ALL PARTS OF DEPARTMENTAL MANAGEMENT AND POLICY DEVELOPMENT. THROUGHOUT HIS CAMPAIGN, IN HIS INAUGURAL ADDRESS, AND IN HIS BUDGET PROPOSAL, THE PRESIDENT HAS ARTICULATED A NEW DIRECTION FOR THIS NATION'S ENERGY POLICY, ONE THAT CLEANS UP THE PROBLEMS OF THE PAST, AND GIVES THE INCENTIVES AMERICA NEEDS TO BUILD A FUTURE THAT IS ENERGY-INDEPENDENT, HEALTHY, AND SAFE. I WANT TO REITERATE MY STRONG SUPPORT FOR THESE PRINCIPLES.

I WILL NOW COMMENT FIRST ON THE DEPARTMENT'S NUCLEAR PROGRAMS SINCE THEY HAVE CERTAINLY RECEIVED THE MOST ATTENTION IN RECENT MONTHS. I HAVE LEARNED ENOUGH ABOUT THE DEFENSE PROGRAM SIDE OF THE DEPARTMENT OF ENERGY, JUST IN THE

PAST TWO WEEKS, TO KNOW THAT THERE IS AN URGENT NEED TO EFFECT A SIGNIFICANT CHANGE IN ITS DEEPLY IMBEDDED THIRTY-FIVE YEAR CULTURE. BY USE OF THE WORD CULTURE, I MEAN THAT SET OF VALUES THAT PERMEATES THE WORK ATMOSPHERE WITHIN WHICH OPERATIONS TAKE PLACE. FOR A VARIETY OF REASONS, DOE'S DEFENSE PROGRAM HAS NOT BROUGHT ITSELF INTO LINE WITH NEARLY ALL OTHER PUBLIC AND PRIVATE NUCLEAR VENTURES THAT HAVE NOW CAPITALIZED ON LESSONS LEARNED DURING THE INTERVENING TEN YEARS OF NUCLEAR POWER OPERATIONS SINCE THREE MILE ISLAND.

AS HAS BEEN THE CASE IN OTHER FACILITIES IN THE PAST, THE DOE DEFENSE PROGRAM HAS A CULTURE NOT YET EDUCATED OR TRAINED TO UNDERSTAND EACH INDIVIDUAL'S SHARED RESPONSIBILITY AND ACCOUNTABILITY FOR SAFE, RELIABLE REACTOR PLANT OPERATIONS. WITH THE RIGHT WORKING ATMOSPHERE, AVOIDANCE OF EXCEEDING ESTABLISHED ENVIRONMENTAL LIMITS BECOMES THE NATURAL AND VISCERAL IMPERATIVE OF EVERY PERSON INVOLVED. THE DOE CULTURE HAS EVOLVED FROM SUCH HEAVY EMPHASIS ON ACHIEVING PRODUCTION GOALS, MADE WITHIN AN ATMOSPHERE OF COLLEGIAL SECRECY, THAT PROBLEMS RELATING TO SAFETY, HEALTH, AND THE ENVIRONMENT HAVE NOT ONLY BEEN BACKLOGGED TO INTOLERABLE LEVELS BUT IN EFFECT, HIDDEN FROM PUBLIC VIEW UNTIL RECENTLY. SO, WE ARE NOW PAYING THE PRICE FOR THIS LONG-TERM CULTURAL MISDIRECTION.

I HAVE READ THE LETTER TO PRESIDENT BUSH RECENTLY SIGNED BY SIX GOVERNORS DEEPLY INVOLVED IN NUCLEAR WASTE ISSUES. I FOUND THEIR PLEAS TO BE VALID, BALANCED, AND COUPLED TO SENSIBLE RECOMMENDATIONS. IF I MAY QUOTE ONE SENTENCE WHICH PROVIDES THE THEME OF THEIR LETTER IT WOULD BE, "TO MAKE ENVIRONMENTAL, SAFETY, AND HEALTH CONCERNS AS MUCH A PART OF U.S. DOE'S AGENDA AS PRODUCTION." THIS PRINCIPLE MAKES EMINENTLY GOOD SENSE TO ME.

THE JOB OF EFFECTING FUNDAMENTAL CULTURAL CHANGE IS OBVIOUSLY MORE DIFFICULT THAN CHANGING EQUIPMENT. IT WILL REQUIRE A NEW BRAND OF INFORMED AND INSPIRATIONAL LEADERSHIP, BEGINNING WITH ME AND PERMEATING DOWN THROUGH EVERY LEVEL OF MANAGEMENT, BOTH WITHIN THE DEPARTMENT OF ENERGY AND WITHOUT, TO ITS FIELD OFFICES AND CONTRACTORS. I WILL ORGANIZE A MANAGEMENT TEAM THAT UNDERSTANDS HOW TO MOTIVATE PEOPLE, HOW TO ACHIEVE AND REWARD EXCELLENCE, AND HOW TO REJECT AND DEAL FIRMLY, FAIRLY, AND SWIFTLY WITH INCOMPETENCE. CURRENTLY, FOR EXAMPLE, THERE IS LITTLE RISK IN BEING CARELESS, LITTLE INCENTIVE TO EXCEL. I KNOW IT IS POSSIBLE TO CREATE A CULTURE IN WHICH PEOPLE ARE EAGER TO UNCOVER; TO SHARE BOTH BAD AND GOOD NEWS; TO CORRECT ROOT CAUSES TO THOSE PROBLEMS; AND TO BE PROUD IN DOING SO, SO THAT PEER PRESSURE SHIFTS TOWARD THE EXCITEMENT OF EXCELLENCE. THAT IS WHAT THE UNITED STATES MUST HAVE IN THE DEPARTMENT OF ENERGY. THIS IS WHAT WE MUST DEMONSTRATE TO YOU AND ALL AMERICANS SO THAT WE IN THE DEPARTMENT OF ENERGY CAN REGAIN THE CREDIBILITY NEEDED TO GET

ON WITH THE COMPLEX ENERGY-RELATED TASKS AT HAND. I INTEND TO TAKE THE DEPARTMENT IN THAT DIRECTION IF CONFIRMED BY YOU.

THE MANAGEMENT OF RADIOACTIVE WASTE PRESENTS NEARLY THE SAME CHALLENGES AS THE WEAPONS PRODUCTION COMPLEX IN BRINGING SENSIBLE BALANCE BETWEEN COMPETING NEEDS. THE PRINCIPLE IS THE SAME: SAFETY, HEALTH, AND ENVIRONMENTAL STANDARDS ARE RELIGIOUSLY MET IN CONCERT WITH BOTH CIVILIAN AND DEFENSE OBJECTIVES. THE PRESIDENT'S 1990 BUDGET PROPOSAL INCLUDES STRONG, CLEAR, AND MUCH NEEDED INITIATIVES TO IMPLEMENT THESE STANDARDS AT NUCLEAR WASTE FACILITIES, AND TO UPGRADE THOSE FACILITIES AS NEEDED. WELL DESIGNED AND TECHNICALLY MAINTAINED FACILITIES ARE NECESSARY, TRUE. BUT ONLY A STRONG, COMMON CULTURE OF THE TYPE I OUTLINED WILL ASSURE THAT, FOR EXAMPLE, WASTE WILL BE HANDLED, PROCESSED, AND FINALLY STORED IN COMPLIANCE WITH THOSE SAFETY STANDARDS TO WHICH FEDERAL, STATE AND RESPONSIBLE LOCAL AUTHORITIES ARE FULL PARTNERS.

APART FROM THE NUCLEAR PROGRAMS AND CONCERNS, THE DEPARTMENT OF ENERGY HAS MAJOR RESPONSIBILITIES IN CONNECTION WITH ENERGY RESEARCH; THE RESULTANT APPLIED TECHNOLOGY; AND THE DEVELOPMENT OF A SOUND ENERGY POLICY COUPLED TO AN INTEGRATED STRATEGY TO CARRY OUT THE POLICY. THE DEPARTMENT'S TECHNOLOGY MISSION AND PROGRAM ARE BROAD, ENCOMPASSING BASIC AND APPLIED RESEARCH, AND HERE AGAIN, THE PRESIDENT HAS PROPOSED FORWARD-LOOKING MEASURES SUCH AS UPGRADING THE LINEAR ACCELERATOR AT FERMILAB, CURRENTLY THE WORLD'S FOREMOST EXPERIMENTAL HIGH-ENERGY PHYSICS FACILITY. HE HAS ALSO PROPOSED A PERMANENT TAX CREDIT FOR RESEARCH AND EXPERIMENTATION. THESE RESEARCH INITIATIVES WILL ALLOW AMERICA TO KEEP HER COMPETITIVE EDGE, AND WILL PROVIDE THE BENEFITS OF IMPROVED ENERGY TECHNOLOGY TO ALL AMERICANS, BOTH NOW AND IN THE FUTURE.

THE DEPARTMENT'S RESEARCH PROGRAMS INCLUDE PROJECTS THAT WILL PROVIDE THE NATION WITH NEW AND POWERFUL TOOLS FOR UNLOCKING MORE OF NATURE'S SECRETS. THE CLEAN COAL TECHNOLOGY PROGRAM, WHICH WILL BE ONE OF MY GREATEST PERSONAL INTERESTS, IS DEVELOPING AND DEMONSTRATING NEW, CLEANER, AND MORE ENERGY-EFFICIENT WAYS TO USE OUR MOST ABUNDANT NATURAL RESOURCE IN A MANNER CONSISTENT WITH THE NATION'S ENVIRONMENTAL GOALS. THE DEPARTMENT ALSO SUPPORTS RESEARCH AND DEVELOPMENT AIMED AT DEVELOPING SOLAR AND OTHER RENEWABLE ENERGY RESOURCES THAT MAY PROVIDE THE NATION WITH MUCH OF ITS ENERGY NEEDS IN THE NEXT CENTURY. THE PROGRAMS ARE AIMED AT IMPROVING THE QUALITY OF LIFE FOR ALL THE NATION'S CITIZENS BY FINDING WAYS TO USE ENERGY MORE EFFICIENTLY AND ECONOMICALLY, WITH GREATER SAFETY AND SECURITY, AND WITH THE GOAL OF INSURING A CLEANER, MORE WHOLESOME ENVIRONMENT. IF CONFIRMED AS SECRETARY OF ENERGY, I INTEND TO BE AN ADVOCATE OF THESE IMPORTANT PROGRAMS.

THERE ARE A NUMBER OF ISSUES THAT WE WILL BE FACING OVER THE NEXT FEW YEARS THAT CENTER ON THE MEANS BY WHICH WE PRODUCE AND CONSUME ENERGY. MOST NOTABLE IS THE GROWING CONCERN OVER OUR INCREASING DEPENDENCE ON INSECURE SUPPLIES OF IMPORTED OIL. THE PRESIDENT HAS STATED HIS FIRM CONVICTION THAT WE MUST HAVE A STRONG DOMESTIC OIL AND GAS INDUSTRY BECAUSE THE UNITED STATES CANNOT AFFORD TO BE TOO DEPENDENT UPON SUCH IMPORTS. THE PRESIDENT HAS ALSO PROPOSED NEW TAX CREDITS FOR EXPLORATION, AND MODIFICATION OF THE OIL AND GAS DEPLETION RULES TO MAKE USE OF THE FULL RESOURCES OF ALL EXISTING WELLS. IN FUTURE YEARS ALL PROVEN ENERGY RESOURCES WILL BE NEEDED IN A SENSIBLE ECONOMIC MIXTURE TO MEET THE NATION'S ENERGY NEEDS. MOVEMENT TOWARD SUCH A MIXTURE WILL BE ONE OBJECTIVE OF WHAT I HOPE WILL BE A RAPIDLY EVOLVING ENERGY STRATEGY, WELL CONNECTED TO THE LEGITIMATE ENVIRONMENTAL CONCERNS WHICH CANNOT BE SEPARATED FROM THE PANOPLY OF ENERGY SOURCES THEMSELVES.

WE ARE ALL AWARE OF POSSIBLE THREATS POSED BY GLOBAL CLIMATE CHANGE AND REALIZE THAT ANY MODERNIZED ENERGY POLICY MUST BE SENSITIVE TO THE DEGREE TO WHICH PRODUCTION AND USE OF ENERGY CONTRIBUTE TO THE POTENTIAL FOR UNATTRACTIVE AND POTENTIALLY DEVASTATING ENVIRONMENTAL CONDITIONS FOR FUTURE GENERATIONS HERE AND AROUND THE WORLD. WHILE WE CONTINUE SUPPORTING RESEARCH EFFORTS AIMED AT REDUCING THE SCIENTIFIC UNCERTAINTIES REGARDING GLOBAL CLIMATE CHANGE, WE SHOULD CONTINUE IN THE INTERIM TO DEVELOP MORE EFFICIENT AND COST-EFFECTIVE COMBUSTION TECHNOLOGIES AND ALTERNATIVE ENERGY SOURCES SO AS NOT TO EXACERBATE CONDITIONS IF SOME OF THE MORE DISTURBING OF THE SCIENTIFIC ANALYSES NOW COMING OUT BECOME THE CONSENSUS OF THOUGHTFUL MINDS. AS I VIEW THE SITUATION, CERTAIN ACTIONS TO AVOID TO THE EXTENT REASONABLE INJECTING INFRA-RED ABSORBERS INTO OUR OWN ATMOSPHERE ARE JUSTIFIED--EVEN IF THERE WERE NO GLOBAL WARMING THREAT. THIS IS SO BECAUSE THESE SAME ACTIONS SIMULTANEOUSLY FAVOR ECONOMICS, CONTRIBUTE TO OUR ENERGY SECURITY, AND ENHANCE THE NATION'S ENVIRONMENTAL QUALITY.

I KNOW THAT THE DEPARTMENT OF ENERGY'S NATIONAL LABORATORIES ARE HOME TO SOME OF THE WORLD'S BRIGHTEST AND MOST INNOVATIVE SCIENTISTS AND ENGINEERS. THESE CREATIVE MINDS ARE A PRECIOUS NATIONAL ASSET AND WILL BE ENCOURAGED NOT ONLY TO CONTINUE THEIR BASIC RESEARCH, BUT ALSO TO IMPROVE THE PROCESS BY WHICH NEW TECHNOLOGIES ARE TRANSFERRED TO AMERICAN INDUSTRIES, SMALL BUSINESSES, AND UNIVERSITIES. THE LABORATORIES WILL ALSO HAVE A GROWING ROLE IN HELPING HIGH SCHOOLS AND UNIVERSITIES MOTIVATE YOUNG PEOPLE TO SEEK VOCATIONS AS SCIENTISTS, MATHEMATICIANS, AND ENGINEERS OF TOMORROW. WE ARE NOT DOING ENOUGH IN OUR NATION TO ENCOURAGE YOUNG PEOPLE, AND PARTICULARLY THE GROWING NUMBER FROM MINORITY BACKGROUNDS, TO PURSUE CAREERS IN SCIENCE AND

ENGINEERING. I AM SURE ALL OF YOU SAW THE COLUMN IN A RECENT EDITION OF THE WASHINGTON POST DISCUSSING THIS PROBLEM AND CITING STATISTICS FROM THE NATIONAL SCIENCE FOUNDATION THAT THE NATION WILL PRODUCE 400,000 FEWER ENGINEERS AND SCIENTISTS THAN IT NEEDS BY THE YEAR 2000. THE WORST GAP OF ALL OCCURS THEN WHEN THE GOVERNMENT TRIES TO COMPETE WITH THE PRIVATE SECTOR IN LURING TOP LEVEL SCIENTISTS AND ENGINEERS TO COME WORK UNDER INFERIOR CONDITIONS FOR ONE-THIRD THE SALARY.

SO, WE NEED A TWO-PRONGED SOLUTION TO THIS PROBLEM, ONE IS TO INCREASE THE POOL OF TALENT, AND THE SECOND IS TO IMPROVE THE WORKING ATMOSPHERE AND SALARY ALLOWANCES FOR GOVERNMENT SCIENTISTS AND ENGINEERS. PRESIDENT BUSH HAS SENT A BUDGET TO CONGRESS THAT INCLUDES INCREASES FOR THE NATIONAL SCIENCE FOUNDATION AND EXPANDED SUPPORT OF OUR SCIENCE AND TECHNOLOGY CENTERS. THIS NEEDED SUPPORT WILL HELP INCREASE OUR TALENT POOL, BUT WE IN GOVERNMENT MUST DO MORE TO SUSTAIN THE CREATIVITY OF THOSE WORKING IN PUBLIC SERVICE. I WILL PERSONALLY ENCOURAGE THESE EFFORTS AND SEEK TO IMPROVE AND EXPAND THEM AS I WORK WITH ORGANIZATIONS LIKE THE NATIONAL ACADEMIES OF SCIENCE AND ENGINEERING AS WELL AS WITH MY COLLEAGUES IN THE CABINET WHO ARE SIMILARLY COMMITTED TO THIS KIND OF EFFORT.

THE PEOPLE WHO MANAGE AND STAFF THE DEPARTMENT'S PROGRAMS, LIKE THE MEN AND WOMEN IN GOVERNMENT WITH WHOM I HAVE WORKED THROUGHOUT MY CAREER, ARE PROUD AND DEVOTED PUBLIC SERVANTS. THEY MUST BE VALUED AS KEY UNDERPINNINGS OF THE ORGANIZATION AND INSPIRED TO HONE THEIR SKILLS AND LIVE UP TO THEIR GOD-GIVEN MAXIMUM POTENTIAL. THIS IS WHAT I CALL PERSONAL EXCELLENCE--A MOTIVATED, HEALTHY, AND SKILLED GROUP OF INDIVIDUALS WHO BELIEVE THAT THEY OWN A PART OF AMERICA CRITICAL TO HER WELL-BEING. THE CHALLENGES FACING THE DEPARTMENT WILL REQUIRE A CONCERTED EFFORT TO GENERATE SUCH AN ENVIRONMENT IN ORDER TO RECRUIT AND TRAIN EMPLOYEES WHO CAN MAINTAIN THE HIGH STANDARDS OF PROFESSIONAL COMPETENCE NEEDED TO MANAGE THE ENTIRE SPECTRUM OF TECHNOLOGICAL ENTITIES THAT MAKE UP THE DEPARTMENT OF ENERGY COMPLEX, DEFENSE AND NON-DEFENSE. IF I CAN ACHIEVE THIS, MY NUMBER ONE OBJECTIVE OF LEADING THIS DEPARTMENT TO HIGH STANDARDS OF PERSONAL EXCELLENCE IN EACH EMPLOYEE, I WILL HAVE LEFT THE GREATEST LEGACY OF ALL WHEN I STEP DOWN.

MR. CHAIRMAN, I WOULD LIKE TO CONCLUDE BY SAYING THAT WE HAVE A LOT OF WORK TO DO. WE NEED TO BETTER MANAGE OUR NUCLEAR WEAPONS FACILITIES, TO ENSURE THAT THEY ARE ENVIRONMENTALLY SOUND AND THAT THEY ARE SAFE TO WORK IN AND LIVE NEAR. WE NEED TO FIND THAT HARMONIOUSLY BALANCED FORMULA FOR ALL SOURCES OF ENERGY THAT BRINGS ENERGY NEEDS INTO SENSIBLE BALANCE WITH LEGITIMATE CONCERNS OF SAFETY, HEALTH, AND ENVIRONMENT. WE NEED TO DEVELOP OVER THE NEXT

FEW YEARS AN INTEGRATED ENERGY STRATEGY WHICH CAN ENCAPSULATE THE NOW SEEMINGLY-INTRACTABLE ISSUES UNDER ONE INTEGRATED SET OF ACTIONS THAT THE MAJORITY OF AMERICANS WILL JUDGE AS BOTH FAIR AND SENSIBLE.

TO ACHIEVE THESE OBJECTIVES, I LOOK FORWARD, IF CONFIRMED, TO SERVING PRESIDENT BUSH AS SECRETARY OF ENERGY AND WORKING WITH THE MEMBERS OF THIS COMMITTEE AND OTHER RELATED HILL MEMBERS WHOSE INTERESTS ARE SHARED WITH YOU.

The **Chairman**. Thank you very much, Admiral Watkins. Obviously the nuclear side of your duties have gotten the most coverage and are perhaps viewed by most as being the biggest emergency.

I am sure, however, that you are familiar with the figures of the oil and gas equation, that the rig count is less than 25 percent of what it was in 1981, seismic activity is less than a sixth of what it was, consumption is approaching all-time highs, domestic production is down precipitently, and the long-term outlook is very, very bad.

Now, a number of us think that the oil import fee is the only real solution to getting the domestic industry back on its feet again. Senator Bentsen and others, and I, will soon be introducing an oil import fee bill.

I do not ask you to respond at this time, first because you are new on the job, and second because I can read the President's lips and I know what his stated policy is now.

I also now that he is about, in my view, about $40 billion off with what I would call phantom dollars for his budget. He is going to have to search for some dollars somewhere in that budget.

And all I ask you is when that time comes, where he looks seriously at a budget, as opposed to this game of let us pretend, that you will examine seriously this question of the oil import fee because it gets you about three things.

It gets you the revenue, about $8 billion, a $5 oil import fee, to use on the deficit. It gets you conservation, and it rejuvenates the domestic industry which is very quickly atrophying on the vine.

And so if you will answer yes to that question——

Admiral **Watkins**. Well, Mr. Chairman, I have read the studies run by the Department of Energy's information agency on the pros and cons of this, gasoline tax and other things.

And while I have not delved in-depth into the quality of the data or that kind of information, I have been fairly impressed with the consistency of the balance that has been presented in those——

The **Chairman**. Well, I do not ask you to really comment on that at this point because, frankly, you have not, probably have not had time to read our study, which came out of this committee, which criticized that study as being just blatantly wrong.

And we think that—we think our study will be persuasive on that. But I do not ask you to defend the administration policy. To the contrary, I do not want you to get locked in on that. I just want you to say yes, you will look at it when the time comes and dispassionately, fairly, and will seek to do justice, truth, and right.

Admiral **Watkins**. I will be pleased to do that, Mr. Chairman.

The **Chairman**. Thank you.

Now, you refer in your testimony to nuclear energy and the need to seek safety, environmental sensitivity and good public relations in the management of nuclear energy. And I think that is clearly true. Your credibility is very important to the President, to the country because when Admiral Watkins speaks on matters of nuclear safety, we want people to believe that. If you give us some good news or some bad news, we want to be able to rely upon that. And so, I strongly will seek to protect your credibility in every way.

At the same time, I strongly believe that it's not just safety and environmental sensitivity and good public relations, that good management is the most important thing right now. Our management of nuclear energy, of nuclear waste and of the military program is in a shambles.

Now, our view is this. I say our view, my view and the view of I know some of the members of this committee and some of our staff members. Let's first go to the nuclear civilian waste program. That's about a $25 billion program. We figure it costs about $10 in this country to do anything else that in other countries, France, Switzerland and Sweden, cost about $1, 10 to 1 on cost.

Secondly, the time keeps slipping. I mean, back in the late 1970s, the target for submitting a license was 1982. Then it was moved to 1985, then 1989, then 1992, then 1995. In our bill it was moved to 1995, and guess what? We're not going to make 1995. And one of the reasons is the schedule keeps slipping. I mean, the drilling of a shaft has been 6 to 12 months in the future since 1981. And I don't know what the date is now, but it is a mirage out there.

And I can tell you the way we're going that the fees on nuclear energy, on the generation of nuclear power, are not going to cover the cost of the nuclear waste program. They're either going to have to be big taxes or big increases in fees.

And I hope Edison Electric and the utilities are listening. Frankly, nobody seems to be minding the store as far as the nuclear waste program is concerned. When I tell you it's in shambles, I mean it is really in shambles in terms of management that will set a goal and do it. I don't mean in terms of safety. I mean in terms of management.

The thing is by the time this realization comes on about the higher taxes or the higher fee, the present management is going to be gone. We need to sound the alarm now. The last bore hole was drilled in 1985, and since then it has been studies, review, planning, $400 million a year of studies back and forth between the NRC and DOE.

The problem has been that the DOE planners have not been strong enough to really submit a plan. What we had in mind with the Nuclear Waste Policy Act was you come up with a plan and design, then you go to the NRC and get them to approve it, have them involved at every step of the process.

The way it has come about is they simply react to NRC. NRC makes some demands, and DOE just meets the demands. And in the process, all you get is studies and reviews, $400 million a year. It is not a question of they are trying to be too safe. They're not doing anything. They're not doing anything at all.

Now, what we need is some brand new management team for waste management. As you know, I recommended to you Dan Dreyfus who used to be staff director of this committee who was really outstanding. He'd be tough. He's knowledgeable. He's all those good things. But he couldn't take it I think principally because of the pay which is just a shame. I mean, we could save maybe hundreds of millions of dollars with the right solution.

But I would submit to you that we need to change that management. We either need to get some kind of super manager, some man who is so strong that he can command respect and recruit the right people and have his decisions stick and do the right thing, or maybe we should look at getting the utilities. They've got good talent. I don't like the idea of having utilities in terms of the public relations of it. In terms of the management, it's one place to get it. Or another alternative is to go to something like a TVA proposal where we can compete with private industry in terms of recruitment.

I just give you those thoughts on the nuclear waste program because we really need to sound the klaxon and get not only the Secretary of Energy, but the industry aware of what is going on. I mean, we need to basically change that and get that thing going because it's going to be a huge cost to the taxpayers.

Obviously, there are a lot of other subjects.

Admiral, did you want to respond briefly to that?

Admiral WATKINS. I agree with you, Mr. Chairman, on everything you have said. Nothing in any of the briefings or the readings that I've done in the last four weeks have indicated other than what you have described as the picture surrounding waste management.

I will bring such a team in and I will be personally involved in it. And if we talk about reactor plant start-up, for example, at Savannah, I do not consider my focus to be on the reactors solely at Savannah River. I think we have got to look at the entire panoply of things that go on related to production reactors with particular emphasis on waste.

We are now at that critical point since we have waited 35 years and we're between a rock and a hard place on the waste. And we've got to move it, and we've got to everything possible. This includes the WIPP management in New Mexico. It includes the possible retrievable storage that is monitored that we're studying. It includes everything at Fernald, at Rocky Flats, in Washington at Hanford. All of these things have to be involved.

We cannot start up in my opinion until we are addressing these things in a very forthright way so people do feel that we have our arms around this and it's under some kind of positive control. And I agree with you. It is not under that positive control today. Witness no specific waste management programs at any site that clearly sets near term objectives that we can fund and accomplish those objectives so that everybody can see that we're making movement. That is, we're burying more than we're producing. We haven't achieved that yet.

So, I'm in total agreement with you and I intend to take very aggressive action in this particular area. It is equally important to me today as start-up. I don't see how you can separate these issues. So, we must work aggressively with the Congress, and there are many things that we will have to do with you in this year, in this legislative cycle, to help move this thing along. And this includes such things as uranium enrichment issues. Everything is connected. I don't see them as isolated issues where I can go in and solve one problem without dealing with all the peripherals that go along with that.

The CHAIRMAN. It is the most daunting management task I think we have ever given anybody I've seen in government since I've been around here.

Senator McClure?

Senator MCCLURE. Thank you very much, Mr. Chairman.

Senator HATFIELD. Will the Senator yield for just a moment?

Senator MCCLURE. I would be happy to yield to the Senator.

The CHAIRMAN. Senator Hatfield?

Senator HATFIELD. Mr. Chairman, just to follow up on that, I would like to indicate one very specific action that the Admiral has taken very early here in this administration. In the reprogramming that was sent up to the Senate Appropriations Committee, of which Senator Johnston and I are on the particular subcommittee, there had been no money provided for nuclear cleanup. And that had been brought to the attention of the agency and immediately the Admiral added $30 million in the reprogramming of over $260 million some to go to that specific Hanford project which is one of the most serious in the country.

The $300 million was added to the $231 million which we already had programmed in that budget, bringing it to about $260 million. The dollars themselves are not that significant except it gave a very definite signal that the Admiral was putting a top priority on the clean-up problems that he faces in that agency. I think that's indicative of the kind of question you put to the Admiral and the fast response.

We could have gotten into a WIPP's road contest on that money with New Mexico and some other activities in Idaho and other places relating to the reprogramming in general. But the Admiral saw the need to balance those allocations and put the focus on the cleanup. So, I just wanted to make that a part of the record this morning.

Senator MCCLURE. Thank you, Senator Hatfield.

There is no way that we can explore all the issue areas that are going to be a part of your responsibility when you become confirmed as Secretary, but let me just touch on a couple or three.

First of all, I want to take some mild exception from what the Chairman has said with respect to the President's budget. I think the President's budget is responsible. I hope Congress will look at it perhaps more carefully than has been the case so far because it does require a number of very tough political decisions and actions by the Congress. And certainly if the Congress is unwilling to do any of those tough things, then the budget isn't going to work as the President has in mind.

Second, with respect to the oil import fee study, so that you will know, Admiral, and so others that are listening might know, that was issued by the committee, but it wasn't approved by the committee before it was issued. So, it is the point of view of at least one staff person and perhaps the Chairman and maybe others of the committee. I'm not critical of that. I just want the record to be plain that I haven't made up my mind in exactly the same way that that staff report indicated.

But I too, Mr. Chairman, pledge I will read it. I'll study it. I'll be open-minded about it, and I'll think about it too. And I'll try to be truthful about it too. [Laughter.]

Senator MCCLURE. Admiral, earlier this year the Department of Commerce released the results of its Trade Expansion Act investigation on oil imports which concluded—and I will quote from that report. "There have been substantial improvements in U.S. energy security since the last Section 232 petroleum finding in 1979. However, declining domestic oil production, rising oil imports, and growing free world dependence on potentially insecure sources of supply raises a number of concerns, including vulnerability to a major supply disruption. The investigation found that the maintenance of U.S. access to sufficient supplies of petroleum is essential to our economic security, foreign policy flexibility and defense preparedness.

"Given the above factors, it was found that petroleum imports threatened to impair the national security."

What are your views on the threat that growing foreign oil dependence poses to U.S. energy and economic security?

Admiral WATKINS. I can only agree with that assessment, Senator McClure, and I also agree with the statements that are contained in the President's amended budget sent over here on the 9th of February in which he devoted an entire page to the whole area of enhancing energy security. And giving rise to some of the concerns that he had, he submitted a number of policies to give greater incentives to help turn that curve around, level it out and turn it the other way.

Unfortunately, we heard earlier about the number of rigs declining, not only that, but seismic crews which is a precursor to those rigs, which are declining at a very serious rate. So, there is great concern. And this is why we have to have this balanced, integrated strategy to ensure that in the transition to perhaps some alternate fuels, to the better use of methanol, ethanol and the like in running our transportation system, all of those things will combine I hope over the next several years to begin to level that curve out and turn it the other way.

I am very much in synchronism with the Department of Commerce report and also the contents of the President's own statement on energy security and our own report in 1987 on energy security, which I thought summarized it quite well.

Senator MCCLURE. Thank you very much for your response.

I'll not go into that further at this time. I am constantly reminded of our former friend—no, that's not the right way to phrase that—our friend who was formerly Director of the Office of Management and Budget, David Stockman, who in his book said McClure is a nut on energy. And I confess that may be true, but I am very much concerned about this problem. And I look forward to working with you on it.

I, of course, am also interested in alternative forms of energy. You have recited in your statement a number of them including the nuclear option which needs to be explored toward its future application. But one of the things that stands in the way of current applications may be in terms of the Nuclear Regulatory Commission function and what they are trying to do on licensing reform. It may be that we have to make some statutory change. It may be that they don't have enough authority under their administrative review to be able to, through the rule making process, adopt the kind of licensing reform that may be necessary for the country.

Do you have any problem with telling this committee that you are going to monitor very carefully the NRC's rule making process and provide us with necessary advice from time to time as to whether or not and how to augment and enhance NRC's efforts of statutory changes necessary?

Admiral WATKINS. I would be pleased to do that, Senator McClure. And I think it is proper for me to make comment certainly when requested and, in fact, I would hope that I can make that comment to the Chairman of the Nuclear Regulatory Commission.

A single-step process, for example, could expedite and could move things, and preclude the kind of constipation that we now have in that process. Not that it isn't a good process, but it can be streamlined. No question about it.

I think also when we get into the advanced lightwater reactor, the conformal concept where we try to bring these more into standardization, that would allow another facilitation of the licensing process.

I think both those are good initiatives, and I hope to be involved at least in making comment on those.

Senator McCLURE. Thank you very much because I hope you will feel compelled to give us advice from time to time as you see it without necessarily waiting for a request from us on how you see that process.

Admiral WATKINS. We will be pleased to work with you and your staff on that, Senator McClure.

Senator McCLURE. I'll take time for just one more question. Then I'll let someone else have some time at this point, and reserve the balance of my questions.

You are familiar in general terms—perhaps in more than general terms—with the decision that has already been made to pursue the construction of new production facilities in the weapon complex. The Department of Defense, Department of Energy and the administration, including OMB, have signed on to the concept of redundancy in production facilities. And from that has grown the two-reactor strategy. I think you are at least in general terms familiar with that, are you not?

Admiral WATKINS. Yes, sir, I am.

Senator McCLURE. Is that a strategy that you support?

Admiral WATKINS. It's a sound strategy, yes, sir.

Senator McCLURE. Thank you very much.

Mr. Chairman, I will reserve the balance of my questions at this time.

The CHAIRMAN. Thank you, Senator McClure.

Senator Bumpers.

Senator BUMPERS. Admiral Watkins, what percentage of the cost of cleaning up these weapons producing nuclear facilities is involved in physically removing contaminated earth from around them?

Admiral WATKINS. I'd have to provide that for the record, Senator Bumpers. I just don't have that.

[The information follows:]

We will not know the answer to this question until we get further along with the job of characterizing these sites. One of the major uncertainties in our cost estimates is that we have yet to determine whether we will be able to stabilize the contamination in place sufficiently for the long term to meet environmental regulations or whether we will have to remove the contaminated soil, treat it, and dispose of the treated waste in a new disposal area. The latter option, of course, is much more expensive. We are undertaking further characterization work to allow us to get a clear picture of what needs to be done at each Defense Program site. When this is done, we can then chose the most appropriate approaches to deal with the individual problems.

Senator **Bumpers**. Would you say it would be substantial?

Admiral **Watkins**. Yes, sir. I would think so.

Senator **Bumpers**. As I read the literature on this, apparently the cost is going to be split between modernizing the facilities and the cleanup of the contaminated area.

Admiral **Watkins**. Yes, sir.

Senator **Bumpers**. And I don't want to be a heretic, and I don't want the environmentalists to come down on me, but if we're just going to move contaminated earth from one place to another, I have often asked myself why not just leave it where it is.

Admiral **Watkins**. Well, it may be when we get down to the individual site cleanup, Senator Bumpers, there may well be a need to put those sites into specific priorities, those that are of immediate concern to environment, safety and health that we cannot allow to continue, such as leakage into the aquifers or into the rivers and that sort of thing which we are now seeing in some cases.

On the other hand, some sites may have to sit there for a while just because they lack the priority to put in the tremendous numbers of resource dollars that we need. We've all seen those numbers. And until we get very definitive at each site, because many of those sites are different, some will need research and development to be able to handle the packaging of that kind of waste that now provides that leakage into the water streams and so forth.

So, we're going to have to get on individual ones and get ourselves some objectives in the near term that we can really fund and show people that we're serious about the highest priority of those contaminants whether they are nuclear or other toxic waste issues. And until we have done that—and we have not done that—I think everybody is going to be confused as to exactly what we are doing there, and that—what the Chairman said earlier—we're perhaps putting good money after bad by flailing around with this thing without some very specific objectives set on a good scientific and technical base that I expect to establish as the first order of business when I get into the Department.

Senator **Bumpers**. If we had all the money in the world, it's still going to be a fairly slow, agonizing process then. Is that what you're saying?

Admiral **Watkins**. Yes, sir, it is.

But there are some things I think we can do right away. I think it's a matter of commitment and leadership and pulling the technical teams together to address those things. Hopefully in the 1991 budget submission, you're going to have a much clearer picture of our view of each site and its contamination in priority and with budgets and specific funding assigned to those remedial lines that you can say, well, finally we're making some movement and we can see some progress. And perhaps by that time, we'll have some projections into the future that are less startling over a five-year period than what we might look at for a 25-year period which can get almost overwhelming. And I think we have to start picking away at this thing as aggressively and rapidly and in as technically competent a fashion as we possibly can.

Senator BUMPERS. Well, that information will be most welcomed by the members of this committee.

Admiral Watkins, let me just quickly ask you. I know that you have resigned from Philadelphia Electric and also from Ford Aerospace. What is Vestar, Inc.?

Admiral WATKINS. Vestar is a budding, new pharmaceutical that is doing a drug delivery system by liposones. Liposones are synthetic cells in which the——

Senator BUMPERS. It is totally unrelated to your jcb here then.

Admiral WATKINS. Yes, sir. It's totally unrelated.

Senator BUMPERS. That's all I——

Admiral WATKINS. Except it's the first time I might have made some money in my life. [Laughter.]

So, I have divested myself from it.

Senator BUMPERS. In looking over your financial statement, I noticed you are in company with a lot of us on this committee here.

Admiral WATKINS. Yes, sir. I thought you would grasp that.

Senator BUMPERS. I don't mind starting off by telling you that I have been more chagrined with the fact that the past eight years, so far as energy policy is concerned, the emphasis has been totally on the supply side, and not on the demand side. Senator Johnston says he wants an import fee. No matter how laudable that is—and I'm certainly not in the mood to quarrel with my Chairman, I don't expect an import fee to go anywhere in this Congress. It hasn't in the past. It has been tried many times. But there are some other things, for example, that could be done. But you can't do it the way we have been going at it.

For example, the Japanese were spending about one-fourth as much on solar research eight years ago as we were, and now they spend two or three times as much as we do. And when that Japanese technology becomes viable, that just means the trade deficit will get bigger, or it means they're going to capture markets around the world that we could have had.

And there have been tremendous cuts in research. For example, solar has been cut by 83 percent. This year it is $92 million, and now President Bush is proposing to cut that to $71 million, another $21 million cut.

There have been tremendous cuts in solar thermal energy research and projects, biofuels, photovoltaics.

And I just think that when it comes to research and development and conservation, we have been grossly irresponsible in the past eight years. I have squealed like a pig under a gate every step of the way with no results.

And so, I'm hoping—and I know that this is sort of new to you. I know that your experience is not in these areas. But I can tell you there are some of us on this committee who feel very strongly about conservation and renewables.

The CAFE standards, for example. Scoop Jackson and Wendell Ford and a host of us around here got the CAFE standards established. The automobile industry said we'll go bankrupt if you do this, while the people were buying Japanese cars as fast as they could unload them off the docks. And I am one who believes that we really saved the automobile industry, not that they would have gone bankrupt, but I think we saved them from themselves by forcing them to a higher fleet average on automobiles.

And simply stated, if you look at the figures on lost production of oil and you look at the figures on how much we're importing, you have to be concerned about not just what imports do to the trade deficit—that's another facet—not just what imported oil does to the gases that are depleting ozone and contributing to the greenhouse effect, but you have to be concerned about just what we're going to do for transportation down the road. And we've cut all of our alternative research.

Now, Senator Wirth and a group of us have introduced a bill that deals with the greenhouse effect and energy policy. [Laughter.]

Senator BUMPERS. It is S. 324 the National Energy Policy Act.

But as I looked over that bill before I agreed to cosponsor it, it seemed to be that—even if the greenhouse effect is a fallacious theory—everything in that bill is good public policy and ought to be done anyway.

Have you had an opportunity to look at S. 324?

Admiral WATKINS. I haven't seen the bill, no, sir, but I generally get the thrust. And I think I in my opening comments pointed out that I think that the actions you would take, even had we not had the pressures from global climatic change or the greenhouse effect, would have sent us in that direction anyway. So, it ought to be things that we ought to get onto from a whole host of standpoints. And so, I agree with you on it, but I have not seen the bill. I haven't had a chance to review it.

Senator BUMPERS. Senator Domenici and I held the hearings here the first year I was in the Senate, and I hate to say I told you so, but I can't resist it. We held hearings on the depletion of the ozone layer. The theory sounded plausible to me, we heard every atmospheric scientist in the country worth his salt, nine hearings. I became absolutely convinced the ozone theory was a correct one. And you have seen the information that the ozone hole over the Antarctic is much bigger, getting bigger every year than we had thought. And so, now I don't believe the Montreal Protocol is adequate.

Are you familiar with that?

Admiral WATKINS. Yes, sir, I am.

Senator BUMPERS. Would you agree with what I'm saying?

Admiral WATKINS. I can't evaluate that. I do know the Montreal Protocol goes in the right direction. Whether it's sufficient, I have no idea. I have seen the report on the Arctic analysis just recently run and the fact that it's not quite as extreme and sharp as the Antarctic. It still is another concern, another confirmation of the fact that——

Senator BUMPERS. But apparently it is moving into the Arctic now.

Admiral WATKINS. Yes, sir.

Senator BUMPERS. And they're anticipating a big ozone depletion in the Arctic.

You know, my wife is a big peacenik. I have tried to get her to just say we haven't had a nuclear war. We won and quit. But she insists on continuing because she doesn't want her children annihilated. And I have been telling her—I don't try to deter her from that because I think she's absolutely right.

But I also think that one of the gravest threats to us now is not nuclear annihilation. It is the slow choking to death of this planet because of population explosion, because of what is coming out of the exhaust of our automobiles. And we are not willing to take on an American automobile owner because of our tremendous romance with the car. We have 187 million vehicles in this country now. Forty-three million of them are trucks. And a significant percent of the greenhouse effect is coming out of the exhaust of our cars.

And while we talk a good game around here, we have always been short on action. And I hope President Bush, whom I think is much more sensitive to the environment than his predecessor was, is not just going to be full of rhetoric on these issues and that he will help us take some of the heat for the things that we have to do that are going to be very unpopular.

Finally, Admiral, let me just ask you the question. Have you had a chance to acquaint yourself with the Supercollider project?

Admiral **Watkins**. Yes, sir, I have, but only briefly in the last few weeks. I've had the briefings. I've read some of the data on it. I've seen the——

Senator **Bumpers**. Maybe you ought to come to our hearing Friday on it and we will all learn together.

I want to say that I talked to a number of physicists. I have talked to Nobel laureates on this, and I'm getting conflicting information. Some think we ought to go immediately all out to build a Supercollider. Dr. Alan Herman, who is one of the two or three leading scientists in the country and who happens to be at the University of Arkansas and so I can talk to him on a regular basis, thinks we ought to slow it down a little bit before we commit $5 billion or $6 million to this project, that it may be premature to do it now. Others think we ought to join the consortium in Switzerland at roughly one-fourth the cost. And others say, well, you're not going to get as much information out of that.

Now, I'm hot for this project. I don't want to be misunderstood. But I want to be sure that we are going at it the right way and as soon as possible. And I hope you will acquaint yourself with that whole issue. As knowledgeable as you are in the nuclear field, it shouldn't be a great, problem for you to make a decision on that and report back to this committee at the earliest possible time.

Admiral **Watkins**. Yes, sir.

Senator **Bumpers**. Thank you, Mr. Chairman.

The **Chairman**. Thank you, Senator Bumpers.

Senator Domenici?

Senator **Domenici**. Thank you very much, Mr. Chairman.

The **Chairman**. By the way, I ask all members—we don't have the clock on members, but try to remember that—oh, Senator Hatfield, yes.

Senator **Bradley**. Mr. Chairman, how long will the committee be meeting today?

The **Chairman**. Well, certainly until 12:45 which is the luncheon. So, I would just ask members to keep that in mind.

Senator Domenici, I think you have been out-senioritied.

Senator **Domenici**. Right.

The **Chairman**. Senator Hatfield?

Senator **Domenici**. I thought you were just choosing to change the time schedule when you got to me, but I see you did for Senator Hatfield instead of me.

Senator **Hatfield**. Thank you, Mr. Chairman. And I will also use Senator Domenici's allotted time. [Laughter.]

Senator **Burns**. That means it's my turn then, right? [Laughter.]

Senator **Hatfield**. Admiral, leading on from Senator Bumpers' remarks—and I don't disagree with Senator Bumpers' remarks whatsoever except to say that I have been on this committee long enough where we tend to get a crisis mentality. We move from one crisis to another, from the Arab boycott, we're going to find some kind of new policy to deal with that, and now the greenhouse effect.

What I would like to suggest to you is that you develop a comprehensive energy program for this country. Now, that is easier said than done. But at a time when we are reducing in this budget proposal for 1990, 25 percent reduction in renewables and 70 percent reduction in energy conservation programs because some of us are going to see you in the appropriations process as well. It disturbs us that there seems to be a lessening interest in some of these areas as the crisis mentality moves from one issue to another.

Now, when I talk about a comprehensive energy program, I'm talking about your requirement to coordinate with the Department of the Interior because the Department of the Interior's off-shore oil drilling program is a part of this. I have talked to you about a comprehensive energy program that includes the question of ANWR which we are going to have to decide at some point. Within the Agricultural Department's alcohol and alternative fuels activities—there are so many things happening in so many departments.

I can't understand these groups that have vested interests in these issues, letting them come up here before a committee and stand or fall on the argument of that issue unrelated to all of the obvious other agency activities that make up a part of the problem.

I put it to some people this way. If you are going to argue ANWR to drill or not to drill unrelated to the war-peace context, you're not going to win it. But you put it in the context of war-peace, whether we want to send men into the Middle East to protect oil supplies that we might otherwise gain at ANWR, and you have a different story and a different balance and perspective.

We have to begin to put all of these energy things in these larger contexts. They can't be isolated to just an energy problem in order to maintain a certain level of consumption.

I happen to be one of those who helped write the Northwest Power bill. For the first time in history, we wrote into law in that bill that conservation is equivalent to a new source of energy. Where is that conservation program today compared to the time when that idea was written into law?

So, I hope that one of your first orders of business is to begin to develop a comprehensive energy program.

Now, one parochial point. One of the stepchildren of this Department is hydroelectric. I call it a stepchild because it has become so regionalized, and people think of it as being so unique to the northwest that it's not of great interest to the rest of the country. Now, the outgoing Reagan Administration proposed that they were going to try to deal with the deficit initially when they came into power by selling the Bonneville Power Administration and the power marketing agencies. They got the response from some of us—I expressed it—over my dead body.

Now, the outgoing Reagan Administration has proposed that the repayment schedule of the Bonneville investment should accelerate for fiscal year 1990 by $500 million on top of the $600 million in the budget. The equivalent of doing that would raise power rates 35 percent to homeowners and to farm operators to raise that additional $500 million.

We raise a lot of that by the intertie to the southwestern states of California, Nevada and Arizona. And we would lose a lot of that because it would be just as cheap for them to buy at that rate their oil-generated energy. Why buy more expensive hydroenergy? So, in effect, the shortsightedness of the Reagan Administration was to squeeze and kill the goose that is laying the golden egg.

The aluminum industry for this country would collapse. It is tough enough to maintain the world competition today at what they get for aluminum in the world market.

Now, I have mentioned this to you, Admiral, but I am very hopeful of two things, that you will look at the Bonneville Power Administration and all the power marketing agencies in two very careful ways. Don't take the OMB perspective as the only perspective. They are looking at how can they raise money. But you have to look at the fact that it would be the equivalent of sending in an enhanced radiated warhead to the economy of the Pacific Northwest.

Forget about the fact the northwest was in the Dukakis column. We have to be treated with certain political reality and political objectivity. And I just don't want that to be a part of the consideration.

Now, the second thing is when this was set up many years ago, the Bonneville Power Administrator was a political appointee. Every time you had a change of administrations, you got a change of director.

Back when I came on this committee, I made a commitment one of these days we want to make that a professional appointment, and the best way for a Republican to pursue that would be under a Democratic administration. And when a Republican administration came in, I went down to the White House and talked to John Mitchell and Richard Nixon and a few of the others and urged them to keep on the previous Democratic administration's appointment, Mr. Russ Richmond. He was a very able administrator. And they kept him on and they reappointed him. And the same was true when we went through Don Hodel and when we came not into the most current one, Jim Jura.

I would urge you that out of the fact that Republicans and Democrats, John Melcher of Montana, and through the Republicans and Democrats of Oregon, Washington and Idaho, everybody selected Jim Jura, because he was an inside professional man. He has done an extraordinary job.

I would hate to see this politicized once again, and I would urge you that from that standpoint because you will get the professional counsel, not the political counsel—that is yours to make an assessment about. But you'll get professional counsel and you won't get an OMB perspective only, but you'll get a broader perspective on the handling of the Bonneville Power Administration and the other power marketing agencies. And I just hope that you will take that approach and not get caught up in the old political part of it or in strictly the OMB part of it.

Admiral WATKINS. Well, you have piqued my sensitivities on this a number of times, Senator Hatfield. And I'm going to be particularly sensitive to Jim Jura because I've received now I think over 50 letters from Senators on the Hill to keep him there. So, that's a majority. And I see no reason to interfere with that.

Senator HATFIELD. One last point. One of the great programs of President Eisenhower was Atoms for Peace. And one of the key programs that is still surviving at a modest $37 million in your Department is nuclear medicine. And I would hope that again it could be elevated from the stepchild status. There has been some very remarkable work done here in the field of heart disease, epilepsy, Alzheimer's.

And every year in the appropriations process, as Chairman Johnston knows, there are a couple of us that have to make a line item battle just to maintain a current level of commitment in that nuclear medicine field. And I am very hopeful that we can get someone who will look at that from within the agency so we don't have to constantly impose congressional action upon the agency in order to sustain that commitment in nuclear medicine.

Admiral WATKINS. Thank you, Senator. Frankly, this is the first time nuclear medicine has come up, so you can imagine how high in priority it is in DOE at this point. And so, I think that all I can say is that you have exposed a new issue to me. I didn't have any briefings on that at all. I didn't realize we were in it to that extent. And I will get into it and take a hard look since I'm very familiar with the whole concept of nuclear medicine.

The CHAIRMAN. Thank you, Senator Hatfield.

Senator Ford?

Senator FORD. Admiral, let me tell a little story here. You say these things haven't come up because you have been briefed by the people in DOE. We had a fellow who ran for superintendent of public instruction at home one time. And the theme in his campaign was to clean it up, educate the kids, get the bureaucrats out. It was a good theme. He was elected.

So, after he was sworn in, he started calling in the assistant superintendents to explain what they were doing in their various and sundry sections. When he got through listening to the last of them, he reared back in his chair, put his hands behind his head and his feet on the desk, and he said, you know, I've got a damned good department.

I hope that you will keep the attitude that you have and be sure that there are other things other than what you are briefed on at DOE.

All of us have our own little piece of energy that we are interested in. Yet, we are all interested in the total field. And coming from the state that is the largest coal producing state in the Nation, I have some concerns. And I will have more than a passing interest, Admiral, in clean air, narrowly defined, acid rain legislation.

Director of EPA Riley was on national television this morning, and he indicated two things. One, he didn't have a date certain that as to when the bill would come to the Hill from the Bush Administration and, two, he didn't have targets set yet.

So, let me ask you this question based on that. Are you or your people having any input into the administration's so-called acid rain bill?

Admiral WATKINS. Yes, sir, we will. It will have my personal involvement in the Domestic Policy Council. It has already been raised at the Council meeting. It will be the first order of business for all of us, and I will be a major player in that.

Senator FORD. So, then do you have any knowledge of a possible deadline of submission of this piece of legislation?

Admiral WATKINS. No, sir, I do not.

Senator FORD. It is not going to come up tomorrow or the next day.

Admiral WATKINS. No, but it is going to come up at the Domestic Policy Council and then the Cabinet within the weeks immediately ahead. It will be, as I mentioned, among the first agenda items to be taken up.

Senator FORD. It's coming in the next few weeks.

Admiral WATKINS. The President is very serious about that.

Senator FORD. I understand he is very serious about that, and his trip to Canada indicated that he was going to keep it on track. Of course, I was very pleased with his additional funding for clean coal technology which you and I have discussed.

Admiral WATKINS. Yes, sir.

Senator FORD. And your interest in that is very pleasing to me.

Let me get into something else that Senator Domenici, Senator McClure and Senator Bingaman and myself have all been somewhat interested in, having passed a piece of legislation through the Senate at least twice and we haven't been able to get it through the House. Maybe this time we can, and that is our uranium enrichment enterprise.

As we discussed, this is a billion dollar a year business. It's approximately $400 million in foreign sales, and it significantly helps in our balance of trade. The DOE enterprise once had a world monopoly and now faces strong competition from foreign-backed consortia.

Are you aware of the threat of the strong foreign competition in this field?

Admiral WATKINS. Yes, sir, I am, Senator Ford. I think you triggered off my thoughts during my call that I went further into that because of the call on you. And I certainly verified what you are just purporting. In fact, there are uranium enrichment processes coming out of the Soviet Union through other nations to the United States today. I'm aware of that.

Senator FORD. Good. I was getting ready to ask you about that, and I'm glad that you know.

You indicated, though, that with the Soviet Union with approximately 2 and a half million SWUs, which is a measure of the enrichment services, available to be sent to the U.S. market—and that represents roughly 25 percent of our commercial business. Do you have any fix on whether it is a flagship swap, as they call it, or some other means coming through brokers here in this country?

Admiral **Watkins**. I do not know that process, Senator.

I do know that I am going to be very aggressively involved in preparing a bill or certainly participating in perhaps one that has already been put forward in the House to address the whole uranium enrichment issue. And I think it has to be aggressively pursued. I believe that there is considerable merit to doing the kinds of things that would make a cost effective enterprise, to bring the technology that is needed into uranium enrichment——

Senator **Ford**. Are you talking about AVLIS now?

Admiral **Watkins**. AVLIS. Make that available, make it attractive and demonstrate that it can be a competitive enterprise for American industry. I see no reason not to do that, and we should do that.

Senator **Ford**. Before I leave this Soviet Union point, would you provide the committee with a listing of what transactions you might find involving Soviet uranium and uranium enrichment services to U.S. utilities that the DOE is aware of for the years, let's say, 1986, 1987 and 1988, and any estimate the Department might have of future sales?

And one thing that I would like to understand is that if you would include in this report to us whether a broker and/or flag-swapping is what is believed to be involved. And I would like to know something about the magnitude of the value.

Admiral **Watkins**. I will be pleased to do that.

[The information follows:]

In responding to your question, please be aware that the material we can provide is based upon proprietary and Governmental confidential commercial information, and should be treated accordingly. The Department would be pleased to provide the details of these transactions directly to the Committee, subject to the appropriate safeguards.

DOE believes that transactions involving Soviet uranium valued at $140 million and Soviet enrichment services valued at over $170 million took place during the 1986–1988 period. Sales losses for U.S. uranium and enrichment services are estimated at $70 million and $90 million respectively for 1989. DOE estimates that as much as $800 million in U.S. uranium sales and $1.7 billion in sales of U.S. enrichment services, over the 1990–1998 period, could potentially be displaced by the Soviet Union or other foreign producers.

Approximately 50 percent of the 1986–1988 transactions were conducted through brokerage firms and involved flag-swapping. I understand that the majority of future transactions will be conducted in this manner.

Senator **Ford**. And we talked about how the past administration has recognized the reorganization of the enrichment enterprise as a government corporation. And as you have just stated, you will be working with those on the House side in order to try to accommodate the problems that they found with the piece of legislation——

Admiral **Watkins**. We may have our own bill anyway. I will be aggressively pursuing that and very personally involved in it in the near term.

Senator **Ford**. You will find members of this committee will be very, very interested in what you do.

So, I do have a few questions, Mr. Chairman, for written answers.

Senator **Ford**. I will shortly drop in my amendment which Senator Domenici and others understand as it relates to the government corporation uranium enrichment which we talked about. Hopefully that will give us the proper vehicle to get back into the market and to accelerate our competitive edge that we used to have or get back to that.

Admiral, I thank you for your patience and thank you for your cooperation and look forward to working with you.

Admiral **Watkins**. Thank you, Senator.

Senator **Ford**. Thank you, Mr. Chairman.

The **Chairman**. Thank you, Senator Ford.

Senator Domenici.

Senator **Domenici**. Thank you very much, Mr. Chairman.

Admiral, I assume if you weren't concerned about this job before you came here, that you probably ought to be now.

First of all, if you are wondering what kind of department we created and called the Department of Energy, with your skills you probably are somewhat confused because, obviously, it is not a department of energy. Not being pejorative, but it is a hodge-podge. We put a lot of things together, including defense nuclear, which we wanted under a civilian agency, and you have that and all the other things that have been spoken of here and many more. Each one of us have been involved for a long time on this committee and with your Department somewhere in on its creation.

We could spend a great deal of time here questioning you today. I wish I had a lot more time, but I've had an opportunity to speak with you at length. I want to start first by saying I agree with the Chairman that the most significant thing you bring at this point in history is credibility. I believe you ought to really guard that because what is missing in many of the activities of the Department of Energy in the nuclear field is credibility.

The citizens of the United States, as you already know, are extremely, extremely confused when you mention anything to do with the nuclear cycle. If you talk about transuranic waste—I mean, it's a big word. It's very confusing to people.

But I want to compliment you because for the first time a Secretary of Energy—at least in the last 10 or 12 years—has come before us with an opening statement that indicates that you understand the extreme importance of your Department in this national government. Your emphasis on the excellence in science and engineering and physics and math that is under your jurisdiction is gratifying. Your comment that you want to use these national laboratories and your expertise to help educate scientists, to excite young people, to involve the minorities—you will find within your Department there are existing entities that you can help promote. There is a minority economic impact portion of your Department. There's a great math achievement activity going on.

Clearly there should never be another meeting in the White House on America's research and development and science and centers of excellence in science—never again, should we have one that the Secretary of Energy doesn't attend. We had that before. We created centers of excellence in the United States in the second to the last Ronald Reagan speech to the people and the Department of Energy had never attended to discuss how we should do it.

And that is truly pathetic because you are the manager of more scientists, engineers, physicists, and mathematicians than any entity in the free world. With their backup, you are managing today about 2,300 in a national laboratory system. The nuclear part has about $8 billion to $9 billion in capital improvements and equipment that is the most sophisticated and best in America.

You have hit it right on the nose in your opening remarks when you said we have to find ways in this transition era to use them. And you have hit them right. You have said technology transfer, helping the private sector with that enormous resource. I urge that you really take these on. This is an enormous asset. And if the transition away from nuclear in the defense area means that these laboratories must change, I submit you must be part of the redirection, or they will not change, they will wilt. And every issue that we're discussing at a high science level, they should be involved in.

First, we talked about greenhouse. The most renowned scientist is working with the national lab because of their capability to assimilate information.

Mapping the human genome. Los Alamos Scientific Laboratory by an accident of fate are the real engineers and scientists in this field. They ought to be a co-partner with the National Institutes of Health. I hope you will concern yourself about that because probably the mapping of the human genome is the greatest health prevention science around. It may, indeed, unlock the secrets to all kinds of illnesses. Why shouldn't we be doing that, and why should we not use the expertise? I could go on and on on that, but I'm going to move to another.

I was particularly gratified to read in your opening remarks on page 4 when you closed on radioactive waste, which the Chairman is so involved in, and we are most appreciative of his genuine interest—you closed it by saying, "For example, waste will be handled, processed, and finally stored in compliance with those safety standards to which Federal, state and responsible local authorities are full partners."

Now, that leads me to my final series of observations with you. The State of New Mexico fits this definition, "state and responsible local authorities and full partners", when it comes to the Waste Isolation Pilot Project in Eddy County, New Mexico for low level transuranic waste. I'm quick to tell you, reluctantly, that I do not believe the Department of Energy has done a very good job.

Why I stressed credibility is because I think it cries out for credibility with average people in New Mexico. I want you to know that I will not support personally an administrative land withdrawal for that facility because I believe your predecessors have made commitments that are reasonable and have to be lived up to that we cannot put into an administrative land withdrawal bill.

For instance, WIPP should not be a permanent disposal site for transuranic waste unless and until DOE demonstrates that WIPP complies with EPA regulations governing such sites. I think everyone has agreed to that. I don't believe it should be a temporary storage facility for research without meeting EPA's storage standards. I don't believe we should put more waste there in the interim for research than is needed to do the research. Other states have overflow problems. But if you are sincere in your commitment that responsible local authorities are partners, then we can't be deceptive. We can't say we want to move it there to do research but we want to move more than is needed.

We have the National Academy of Science involved. We have an evaluating group in our state that fits this definition. They too want to pass judgment on many of the things that DOE was responsible for doing. You are going to find that they are very far behind on some of the commitments they have made.

We need a bill that lives up to the commitments. We promised New Mexicans some road money for bypasses. We promised them that we would live up to EPA standards. We committed to a number of things. We can't do that unless Congress puts their okay on it. So, I hope you support that, Admiral.

My last comment is if you put your John Henry on an agreement with a state, don't put it on casually. When it says we will use our best efforts to get something, somebody better appear to exert their best efforts. That hasn't been done to New Mexico. They promised road monies and nobody ever appeared for the past 10 years. Nobody put it in their budgets for the last 10 years. We had to put it in appropriations without them.

Now, speaking of credibility, it starts right there. It is science. It is knowledge, but it is also understanding when you make a commitment, you live up to it. So, I urge that you keep that credibility both by living up to commitments and keeping the high standards that you have referred to.

Admiral **WATKINS**. Senator, I don't think there is any more important piece of legislation in the very near term than the one you were just talking about. And I plan to move that expeditiously. I believe the legislative route is the correct route. I think it avoids all kinds of complications downstream, and we ought to get on with it.

I have already raised these issues with the Office of Management and Budget, and I intend to prepare such a piece of legislation working with you over here on the Hill to make sure it's a responsible piece.

We have come in with reprogramming actions for the additional road monies, about $43 million, as good faith money to indicate that we're serious about making this work. We have to start the flow of waste going. We want to do it responsibly.

And I think this legislation will convince the various governors that are involved in this, not just in the State of New Mexico, but it is linked, as you know, to Governor Andrus out in Idaho who was on our site yesterday talking about these very issues. So, they are all very concerned about our lack of management aggressiveness on dealing with the WIPP issue.

So, I know that it is urgent. We must get it through. I had hoped that we can work to get it through in this Session of Congress because it is desperately needed. Certainly we have to send the signal that we are serious about that piece of legislation.

Senator **DOMENICI**. Admiral, let me suggest to you. Senator Hatfield, thank you for the reprogramming which would have taken $10 million——

Admiral **WATKINS**. We stole his money, Senator, and we gave him a little back. And he felt that that would—and I felt it was very important that in the waste barrel we not rob Peter to pay Paul. We have serious waste problems at Hanford. We have to deal with those.

Senator DOMENICI. Well, Mr. Secretary—Admiral, soon to be Secretary—let me suggest to you that was a very generous act. Had he not thanked you, I would have.

But right now the Department of Energy is saying, nonetheless, we don't think that $43 million can be spent until there is a land withdrawal bill. I remind you that $43 million is a commitment from eight years ago. It is written up with the governor. It has nothing to do with the land withdrawal. That is for widening some roads. That was a very early commitment. So, now we have you being generous and somebody else saying let's hold it up until there is a land withdrawal. I hope you will look into that because I don't think that is very consistent.

Admiral WATKINS. I will, Senator.

The CHAIRMAN. Let me just before I call on Senator Metzenbaum that the WIPP problem is a severe problem. Because the way those regulations are being interpreted, we can hardly store anything in WIPP. It's certified for plutonium, but you can't store lead in there because RCRA has been made applicable to it. It is just bizarre. Maybe we can use it for a salt mine. I don't know.

Senator Metzenbaum?

Senator METZENBAUM. Thank you, Mr. Chairman.

Admiral Watkins, I'm obviously very concerned about DOE's nuclear weapons production activities. I have long believed that without significant changes in the way DOE runs the weapons plants, the Nation is moving headlong toward a financial and environmental nightmare. It has turned out, frankly, even worse than I thought. American taxpayers will be paying $100 billion or more over the next 20 years to clean up weapons plants that don't even work.

In the name of national security, the United States Government has poisoned our land, our water, our people. And I don't know which is more dangerous at the moment, frankly, enemy powers or U.S. nuclear weapons plants.

The current system lacks accountability which inevitably leads to careless, sloppy work. Nobody is responsible for anything. Nobody shoulders any blame. The contractors have no responsibility, no legal responsibility. If there is an accident at one of these plants or if the environment is polluted, American taxpayers pick up the tab. There is no incentive for safety.

When you were in my office, I discussed this matter with you, the whole question of making the contractors liable for accidents which they cause due to their own gross negligence or willful misconduct. We will have this matter on the legislative agenda again. I will put it there.

It is my understanding from our conversation in my office, that you agree that to have a system where the contractor has no responsibility whatsoever for willful misconduct or gross negligence doesn't make good sense as a governmental policy. Am I correct?

Admiral WATKINS. Yes, sir, I am. I do not believe, for example, the accident we had recently, a non-radioactive accident, at Savannah River that was written up in the papers, a reverse flow test that was improperly conducted, is solely the responsibility of the U.S. Government when, in fact, procedures that the contractor had agreed to were not followed. And it seems to me at some point, we have to have an accountability for that sort of thing.

Now, I have already reviewed the forthcoming contract for Westinghouse takeover. I wanted to make sure that my contracting people understood that from now on I want to be involved in those contracts, want to see how they are prepared so that I can see what the award fee standard is.

And we have modified that award fee standard to address the area of negligence. I don't mean willful negligence. I mean negligence, failure to follow their own procedures which we have contracted for. We have contracted for these people to run these things properly, and they can be very responsible. We have to hold them accountable to that.

The degree to which you can put that into law is—of course, it's a lawyer harangue. And are we precedent setting in doing that? Can we put it into the contract at this point or will we drive a lot of contractors out of the business? They're on the shaky edge anyway whether or not they even want to work in the government business. So, we have to be very cautious I think as we walk down that line.

But I am of the same mind you are that there is a limit to the degree to which we can accept all liability for any event, particularly negligence.

Senator **METZENBAUM**. Thank you, Admiral Watkins.

When the Senate reauthorized the Price-Anderson Act last year, we unanimously adopted an amendment which I offered, along with Senator Johnston, to authorize the imposition of civil and criminal penalties by the Department of Energy against contractors that violate safety rules. Will the Department promptly under your leadership take steps to implement that provision?

Admiral **WATKINS**. I don't really understand those provisions in any detail, Senator Metzenbaum. So, I would have to really look at that and make sure that I understand what the impact would be on the system as a whole. I have not reviewed that.

The thrust of my comments earlier was that I agree with the direction. How fast we can get there and what we can do without shooting ourselves in the foot I'm not sure at this point.

But I do know that award fees cannot be given for demonstrated negligence in past practices. I cannot tolerate giving 95 percent of our award fee when we have a situation that clearly does not warrant any award fee. So, I am working in that area right now because that is within my power to do without setting a significant precedent that I do not yet understand in the way contracts are written for liability on government-owned facilities.

Senator **METZENBAUM**. First I want to say I compliment you on that. I think you are very much moving in the right direction.

I'm referring actually to a different step entirely and that is on the award fees, I think your approach makes great good sense. And I think when you and I talked about it, you indicated that most of the award fees in the past had been almost at the 100 percent level regardless of whether a good or bad job had been done. Am I correct in that?

Admiral **Watkins**. Well, all I know is that we, except for a few activities in the field, have generally been quite generous in giving out award fees. Maybe that is justified. It is hard for me to listen to the variety of criticism of the Department of Energy and to get a warm, fuzzy feeling about the way we are running award fees.

Only about 20 percent of our contracts might be written in that regard. So, I have to be a little bit cautious. I haven't looked in in great depth. I have just looked at the statistics, superficial statistics on it.

Senator **Metzenbaum**. I would like to bring to your attention this provision—Senator Johnston joined me in offering this amendment—giving you the right to impose civil and criminal penalties against contractors who violate safety rules. And that is the law, but I think it does require some implementation on your part.

As you know, Congress established an independent safety board last year to oversee DOE's environment, safety and health activities at the weapons plants. The President must nominate people to serve on that board. What role would you expect to play in those nominations and what criteria would you be using?

Admiral **Watkins**. Well, I think the law is very specific regarding the DOE's involvement. This is an independent group. I would hope that the selection of those individuals with perhaps suggestions coming in from responsible committees, such as this one, would aid the President in making the selection.

I can say this, that I can think of no more important role that has to be played right now, than that Defense Nuclear Facilities Safety Board. Their role is very akin to the Nuclear Regulatory Commission. The competence of those people has to be impeccable; they must have impeccable credentials. They have to come with great knowledge and sense of balance on what their role is to oversee.

On the other hand, I will have to say this. I have no problem with oversight. My problem today is that I don't have a line management function within the Department of Energy from me down to the field office that makes any sense. I have no chief operating officer equivalent. We don't know what is going on in the field. So, for somebody to come in and oversee and tell me I don't know what is going on, I will only agree with them. And so, I feel that once we get our line management in place, then this particular group, this august body, can oversee something.

Right now they are going to be seeing the same things I'm seeing, a management system that is antique. It's out of date. It's back in the 1950s technology. It doesn't match the private sector. It is desperately in need of change, and I plan to effect that change. Then I think the oversight board makes some sense in terms of they will be looking in and making sure that I'm doing my job.

Today I can tell you I am not doing my job. It's very obvious, and it's not just Savannah River. All other activities don't come under the direct line management authority of the Department of Energy in any clear way. If you can look at our organizational charts, you will be aghast at the lack of attention to implementing policy. We're great on policy documents. We're very poor on following up to see that they're implemented properly. And I think that is what I have to do.

And that also includes activities right at the sites. We have to have DOE representation there that is technically qualified, good management skills, people who know what they're doing so their oversight can be looked at by this Defense Nuclear Facilities Safety Board and say, hey, yes, DOE is doing their self-regulation, self-oversight functions well. This is what is done in the private sector. We have to set up that as a new entity throughout the Department of Energy.

So, I bring that up because I want to make sure that I leave the message here that I will do everything I can if given a chance to get the line management organized. And I hope that in time your oversight board will come to you and say they're doing the job right. We're not sure we need to meet this often. That would be my objective over the next four or five years to demonstrate the credibility that we talked about earlier so that oversight then is relatively easy to perform. Today they would be right in the middle of my line management problems and voids that exist there today, and I would only have to say with you I agree with you, Mr. Oversight Board, it's a mess.

Senator **Metzenbaum**. Admiral, we have spent a good deal of time on energy. The past Administration has given almost all of its attention to that subject. During the Carter Administration there was a great thrust forward with respect to developing alternative energy resources, solar energy, wind, Synthetic Fuels Corporation that became an absolute mess and wasted billions of dollars.

Is it your thought to reactivate and put this administration in a forward-moving manner to bring about the utilization of some of the alternative energy resources that are truly available and are being used in many other countries but very little in this country?

Admiral **Watkins**. Well, I have looked, of course, at our budget submission, including the most recent one by the President. And there's $209 million going into conservation and renewable energy, a significant drop from last year's $526 million. And I think that is what you may be referring to——

Senator **Metzenbaum**. That's correct.

Admiral **Watkins** [continuing]. That kind of a drop.

One of the positions taken on this issue is that the significant amount of this reduction is in conservation grants. And I think conservation grants get the bulk of this step down in level of funding in conservation and renewables.

And my understanding is that there was a feeling that these programs were supposed to have some kind of a sunset concept in them at some point in time. Also, significant dollars are being returned to the states for oil overcharges were going to be applied to this effort of conservation. And that was my understanding of the rationale for zeroing the conservation grants, not that people weren't interested in conservation.

We had gone on for a number of years at generally level funding and it was time to say you had the additional impulse from the oil overcharges, and that should be used for conservation grants. We have to take the government now out of what we have already developed and put it onto the competitive market for conservation purposes. Now, I can only say that is what I understand to be the rationale for the significant decline, and it is primarily in that area of conservation grants to the states.

Senator **Metzenbaum**. But from a motivational attitude, from the standpoint of direction of your Department, are you prepared to do that which is possible in the whole area of——

Admiral **Watkins**. Absolutely. I believe, for example, that the data presented to me is we have saved, since 1973, in conservation alone, about the equivalent of 8 million barrels a day, 16 quads, as they call it. This can again be saved by the turn of the century. There is no reason not to do that, and we have to put our minds and hearts in that.

I think when we talked about our laboratories' work, they can bring their help to bear on this issue, and we can motivate our young people I think in the area of conservation. This is a technology. This is a product. We have to treat it that way. It is not just some mythical concept. It is a very definite product with a barrels-per-day equivalent that is very significant.

And on all the renewables, I agree with you. And I think we are finding this now in the clean coal technology program. We've just had an experiment run in Texas the other day where the methanol byproduct of the coal gasification process gave us three times as cheap a rate for that methanol production than we have seen before. That was in a very exciting turn of events in this whole area of clean coal technology.

So, we are beginning to see some payoffs now come in from the effort on research. This will be very important to help us find more efficient systems, as well as better use of conservation and renewables.

The **Chairman**. Senator Metzenbaum——

Senator **Metzenbaum**. One last question if I may.

The **Chairman**. Okay.

Senator **Metzenbaum**. On the question of the CAFE standards, the previous administration relaxed those standards and they really have to do with the question of how many miles per gallon automobile manufacturers are seeing to it that their cars provide. Do you have any views on that subject, Admiral?

Admiral **Watkins**. Well, I did review the responsibility of the Department of Energy regarding the CAFE standards. And we are limited to two areas of the four objectives set in the law, and that is on the technical assessments of what industry can accomplish. Can industry, let's say, General Motors, for example, achieve those standards. And in our response last year in September—I read the DOE's response—the answer was, yes, they can. It's very technically feasible.

Does that change from say 26.0 to 27.5 mean that we will actually achieve by setting that particular differential in standard a lot of new energy savings? Probably not so much, according to the data that I have been presented. But does it say it's in the wrong direction? Of course not. It is in the right direction. So, I think your earlier comment that it sends a signal to the Nation that we are serious about conservation is a very important one.

But we will probably answer again with the new Administration that we see no technical bar to getting on with the 27.5. And we don't see however, that that will make a significant change in the actual miles per gallon that we demonstrate nationally which is above 27.5.

Senator METZENBAUM. Thank you, Admiral Watkins. Thank you, Mr. Chairman.

The CHAIRMAN. Gentlemen, we have six Senators and there are 25 minutes until the Democratic Conference lunch. I wonder if—can any of our Senators on the Republican side stay a little after 12:30 so we could accommodate the Democrats? If you have a lunch too, we will go ahead and put you on. I hate to ask you to wait because Senator Burns especially has been waiting patiently.

Senator BURNS. I think we have a lunch too.

The CHAIRMAN. Do you? All right. Senator Burns?

Senator BURNS. I just have a couple of quick questions. I don't sound very good today, but those folks that are worried about global warming, it wasn't with me last week in Montana. And they have nothing to worry about.

I want to reiterate here this morning what Senator Domenici has brought up, and Senator Hatfield too, is credibility in this organization. I have a couple of questions, and most of them have been answered this morning. There is no use to rehash this thing when we want to carry on with these hearings.

I was a little concerned about the lack of credibility in the Department in the chain of command. I am wondering with your managerial expertise and your coming in here with a military background—the chain of command is very important in management—how long do you think it will take you to put maybe some new practices in place to where we can tighten this ship, so to speak?

Admiral WATKINS. It will take me six months to get the fundamental embryo of such an organization going, but in the meantime, I'm going to fill in some of that void personally because I have no other choice. And I hope to bring before this committee additional Assistant Secretaries, a Deputy Secretary, and an Under Secretary who are highly talented in the fields of waste management, in defense systems, in managing downtrodden reactor plants, and in other areas of management. And I think you will see a very talented group come in as soon as I can get them on board, which I am moving very expeditiously to try to do. I think that within six months, you will see a whole new face on it. In the meantime, I am going to stay personally involved in it myself because, as I say, I think I'm it right now.

Senator BURNS. Sometimes it takes a long time to change the mentality and——

Admiral WATKINS. Mentality will take me a couple of years. The culture will take longer, but we will get up to a satisfactory level by the end of the year and we will have our management team generally in place in six months.

Senator BURNS. This is not your area of expertise, but I would ask you—and maybe you haven't had time to assess this. Have we used or have we developed all of our possibilities of hydropower in this country?

Admiral WATKINS. No, sir. It is coming back again. It is beginning to be more competitive now to go in and employ the kinds of techniques that are being employed across the Nation, storing water, for example, in the times of the day when you have lots of power available, pushing it back uphill to let it come down again during the peak times. That is becoming quite competitive now.

Drilling into the rocks, for example, out in California. I know it is being done in the Big Creek project where they are putting down the pumps down below to pump that water back up during the low times.

So, I think we are going to see hydropower come back to life, augment, if you will, the current system. But I don't see it being a major contributor to the energy needs of the Nation for the future any more than it is today. It will be a modest increase, yes.

And I think it is very important. We can never let that go because it is one of our most important renewable sources, as you know.

Senator **BURNS**. Mr. Chairman, that's all the questions I have. Thank you very much.

The **CHAIRMAN**. Thank you very much, Senator Burns.

I think Senator Heflin is next on our side.

Senator **HEFLIN**. Admiral, I may have a different attitude toward your background as a naval officer with regard to some of the major problems that you will be confronting as Secretary of the Department of Energy. As you are well aware, a naval commander has to take some substantial risks. He makes decisions with regard to deploying resources at his command, based upon his best intelligence. We were fortunate during World War II in that we broke the Japanese code. As a result, we won great naval victories.

With regard to the enemies (which I think are real) of ozone depletion, global warming, ozone thickening in certain areas, acid rain and certain other problems, you mentioned something in your statement about a consensus among scientists. You know, we could take some steps which would cost us billions and billions of dollars based, on what a consensus of scientific minds might say is the cause of a particular problem. We could very well make a mistake as to what that cause might be.

I hope that you will give some thought to developing a mechanism or a procedure by which we can be pretty well certain of "causation" before deploying the forces that we have at hand. There, probably, is going to be some element of risky involved. But I believe that with your military background, you should be certain that any risk that you would assume ought to be small—insofar as intelligence and knowledge of causation are concerned—before you make a decision as to what should be deployed and how it should be deployed.

I think that it is important that you develop (a) some type of a modus operandus as to how you arrive at a consensus, and (b) what the consensus is as to the true cause. It's a different situation, but from a military perspective, normally, risks are large, and you have to take some. We are taking on some pretty substantial problems. We need to find the solutions to them in a manner whereby we apply our resources effectively and efficiently, and eliminate the dangers. I believe that this is a matter about which we should think very carefully.

Have you given any thought as to what mechanism or modus operandus you will employ and use in determining causation of the various problems that we are facing today?

Admiral **WATKINS**. Well, I grasp your point very well, Senator Heflin. And I think that the worst thing we can do is move rapidly on poor intelligence. We have some poor intelligence. I have some poor intelligence right now that is forcing me to get a new ground truth in where we stand on our entire weapons complex. I am doing that. How I'm going to take the data that comes out of that new ground truth and then move it into a strategy to deal with this with all of the linkages out into waste management, to environment, safety and health issues is something I haven't come to grips with yet. But I grasp the idea and I am totally in synchronism with it. I don't know what mechanism I am going to use there.

On the AIDS Commission we found out that if we listened to good people who were knowledgeable around the Nation, and we tried to integrate that into a broader strategy, we found it much easier to do that than take on any one single issue and try to solve it. We simply couldn't solve it with clean needles and condoms in the case of AIDS. And we found out that very quickly. It was a much broader issue. And that is what I think we have here.

So, I have to wait until I can take a look at Savannah River as the template for the future across all DOE activities and try to put that in some kind of strategic context where every single element is addressed. And I believe when I do that, the light may come on as to how to build the broader energy strategy that I think we have talked in here that we all think we need. That is the one I want consensus on. It will not make everybody happy, but it might make everyone equally unhappy. And that is not a bad strategy in this area where we have so many different conflicting views and so many pressures working against each other.

So, I grasp the point. I do believe that we have to be a little bit cautious that we don't move on every single report that we see on the threats to those that follow us. I think we have to move very cautiously.

And I have seen some very thoughtful scientific approaches to global warming, for example, the data that we need, desperately need to know. What is going on in the CO_2 in the atmosphere right now? We know that it is going up 50 parts per million between 1970 and the year 2000. But it went up 50 parts per million from 1720 to 1970. So, that ought to be frightening all in itself.

So, there are things you can do even with shaky intelligence, to start moving in the right direction, what I would call all ahead flank, right full rudder. We don't know where we are going yet, but we know we've got to get there. And we've got to move in that direction and move aggressively, but don't try to come to that final course until our intelligence, which is usually about the seventh report you receive, is finally valid. I don't think we have gotten that seventh report yet.

Senator **HEFLIN**. Well, now, please don't misunderstand me. I don't think that we ought to adopt a uniform, straight jacket mechanism or modus operandus for each and every problem that we have. I think that the procedure has to vary. I think that perhaps from a military perspective, you should loo at each battle differently. I hope that you will do that.

I believe that there are many people who want to find solutions to some of these problems, but they want to be sure that we don't waste a great deal of money. In other words, down in Alabama we say that a bird dog that gets off on the wrong track thinks that he is chasing rabbits when he actually should be hunting birds.

Hopefully, we would like to try to develop some sort of requirement and/or a mechanism for looking at each problem to see whether the consensus is close to being accurate. Thank you, Mr. Chairman.

I will yield back the rest of my time.

The CHAIRMAN. Senator Nickles.

Senator NICKLES. Mr. Chairman, thank you much. And, Admiral Watkins, welcome.

I was looking at your statement and read with interest. It says, "The President stated his firm conviction we must have a strong domestic oil and gas industry because the United States cannot afford to be too dependent on such unreliable imports." At what level is too dependent?

Admiral WATKINS. Well, I think if you listen to the commentary now, I think everybody feels that we are getting close to it. We have seen the continuing increase in oil imports. There is a great concern about the stability and the security of the pipelines that provide that. We are very worried about our own national security in this issue. And I think that nobody knows what that formula is exactly, but I do believe that we all feel that it's too much. And we need to bend that curve over somehow.

Senator NICKLES. When we had the previous curtailments, the one in 1973 and the one in 1979, if I remember in 1973, we were importing something like gross imports were 36 percent, and in 1979 I think it's 46 percent. We're at that threshold today. Just looking at the last four weeks, we imported right at 8.4 million barrels per day, which is 46 percent of consumption.

If you remember those curtailments in 1973 and in 1979, they caused a lot of economic damage throughout this country. We had layoffs. We had shortages. We had schools that were closed, et cetera.

So, would you think if you get into the upper 40s or 50 or 60 percent that we're in a dangerous period of vulnerability if we're that dependent on imports?

Admiral WATKINS. I haven't got good enough information, Senator Nickles, to know what the factor is against national security, the vernier, if you will, that you turn one way or the other depending on the percentage of imports.

I do believe that it is a serious problem. And the worst thing is the trend analysis shows it continuing. Nothing in the data I've been given shows other than consumption going up and production in this country going down. So, therefore, we have to look at the degree to which we can change course in the Nation on alternate forms of energy to try to bring that into better balance.

And I think that is what all of our discussions here today have really been pointing toward. And that is part of the strategy I think that has to be laid out so we can show over the next five years that we can begin to grasp and control this and begin to send it in another direction, such as the alternate fuel process which I think——

Senator NICKLES. You mentioned alternate fuels, and I have heard some of my colleagues mention that, but I don't see the millions of automobiles that Senator Bumpers was alluding to earlier burning anything other than gasoline.

Admiral WATKINS. Well, there are 300,000 vehicles in the world operating right now on gas, compressed gas, for example. I have seen the various motor companies beginning to come in their 1992–1993 time frame with methanol, the proper gasoline mix cars, the flexible mixture.

And I think those kinds of developments, plus the other alternate forms of transportation have to be very aggressively pursued, along with everything else we're doing to try to find additional oil. I think the ANWR issue has to be placed into that context, or offshore oil drilling. We need to transition somewhere from the heavy dependency on transportation fuels, mainly oil, to at least some alternatives. That is the prime use of oil in the country. Two-thirds of all of the oil is used for that purpose. So, this is what I'm driving at.

Senator NICKLES. That will continue to be the case 10 years from now.

Admiral WATKINS. It will continue to be the case and, therefore, this demands a balanced approach across the board both into additional exploration—and I think this is why the President put in his tax incentives to do the additional exploratory work and try to put some incentives in the system to extract that oil from our own reserves.

Senator NICKLES. Mr. Secretary, let me just make a couple general comments. I read your statement. I will tell you I was disappointed that I saw one paragraph relating to oil and gas. The shortages that were caused in 1979 were shortage of oil. I heard extensive comments on clean coal technology. I heard extensive comments, several pages of your statement, dealing with the nuclear problems that we have, which are significant and serious. I don't minimize those.

But the real significant problems that we had in our recent history in the last 15, 20 years were a curtailment of imports of oil. If we have a very significant real problem that is going to affect millions of people in a negative way in the near future, it will be a curtailment of oil.

We are becoming very dependent, and we are crossing that 50 percent threshold. The last two months we have actually imported more crude than we have produced domestically. We have hit that 50 percent as far as a couple of months. My guess is next year we will probably be right on 50 percent. And five years from now or six years from now, we will probably be at 60 percent. So, we will be much more dependent than we were back in the 1970s when we had the curtailments that caused economic damage that this country really suffered under, unbelievable inflation, et cetera.

So, I hope that you and your Department will give some added attention. There are some things that can be done.

You mentioned ANWR, but ANWR I didn't see in your statement. But we're going to have to develop ANWR. I think there in an environmentally sound way as well, but that is 2 million barrels of domestic production. We are only producing 8 million. If you lose that in another 10 years which it is forecasted it will begin declining, if we don't replace that 2 million barrels per day, or 24 percent of our domestic production, this country is going to be even that much more dependent on unreliable sources or foreign sources and that many more dollars will be exported overseas. It's a serious problem. So, at least you mentioned it in your verbal comments.

Do you plan on working with Congress to develop a proposal environmentally sound for ANWR in the near future?

Admiral WATKINS. Yes, sir, I do. I am supporting the President's package on that. I believe in it.

And in deference to some of the comments made here earlier, I think that it has to be placed in the context that you have just talked about which is energy security. It's national security. It's a very important adjunct of what we have got to do to turn the corner in our own Nation on oil imports.

Senator NICKLES. Let me ask you additionally. I didn't see anything in your statement dealing with natural gas, decontrol of natural gas. That is the only major commodity, maybe the only commodity, that the Federal Government has price controls on. Many of those price controls in various categories of gas have now expired. So, we have large quantities of gas that are in the free market, but we still have some categories of gas that are decontrolled. Many of us have been working. We are negotiating with a lot of people in the industry for a bill that would decontrol natural gas in the near future.

Will you be supportive of that effort?

Admiral WATKINS. Absolutely. I'll be very supportive. The President has taken that position. I agree with that position. He announced that the very day that I was before the cameras when he announced me as his nominee for this particular assignment. And he said I'm the oil and gas man in this business and I'm bringing him in for another purpose. And he will learn that business in a hurry, and we're going to watch it very carefully. I think that is why he came in with this tax incentive package in his amendment to the 1990 budget.

So, I hope that the general comments in my statement did not imply that I was not interested in carrying out every one of those agenda items that the President has proposed because I certainly do support it.

Senator NICKLES. Well, I appreciate that. Well, natural gas is a big commodity. It's a multi-billion dollar commodity, as you are well aware. It's very important for every segment of this country. Again, I didn't see anything dealing with natural gas decontrol. I urge you to move quickly. That is one thing that can be done that I think has benefits for consumers and for the industry as well.

Right now it appears that we are moving towards a consensus in Congress as well. It looks like it can happen. This is an issue that many of us have been wrestling with for years, including the Chairman.

One final comment. I didn't see anything in your statement dealing with Shoreham or Seabrook. Does it bother you the fact that we have two powerplants both in excess in of $5 billion—right now it looks like they would be permanently shut down?

Admiral WATKINS. Yes, sir, it bothers me.

Senator NICKLES. Do you plan on doing something about it?

Admiral WATKINS. Well, I don't know what my role is going to be in seeing that those plants get licensed. I believe it is irresponsible not to be a participant in all of the various regimes that have to be put together to license a plant, such as emergency evacuation. I believe the actions taken last year were the correct actions to move expeditiously to get the Nuclear Regulatory Commission and FEMA and all the other people who have to be a part of the game to look into those two plants to see if they shouldn't be licensed. I believe it is a discredit to everyone else who has to pick up the tab for the electricity that is going to have to be generated as an alternative to those two plants. I think we all have to be a participant.

And I think that when we can demonstrate to the American people an understanding that we in this country can manage these plants responsibly and safely, then I think it is going to take off on its own. It is not going to be because Watkins is nuclear trained. It is going to be because the American people believe that we can now, 10 miles downstream from Three Mile Island, work these plants in a responsible way. Come in and take a look. We're doing our job. We are self-regulatory. We've got a federal regulatory agency. We're doing it responsibly. We've got an evacuation plan in the unlikely event another Three Mile Island will happen.

I believe we are getting there in the Nation. It is unfortunate that we had to have Three Mile Island in the first place, but maybe we will look back at it one day as a blessing to get our attention on an alternate source of energy which is very critical to the total energy package and will be in the years to come, and not because of what I do. I say it's because we will manage it responsibly. And I think we're at the turning point now, and we ought to get on with those two plants.

Senator NICKLES. Do you think those two plants——

The CHAIRMAN. Senator Nickles?

Senator NICKLES [continuing]. Will be able to go into production?

Admiral WATKINS. That I do not know.

Senator NICKLES. Do you think they should?

Admiral WATKINS. I think they should be—if they meet the requirements of the Nuclear Regulatory Commission and they have satisfied all the licensing parameters, then I believe they should go into commission. And we ought to get on with it.

Senator NICKLES. I agree with that.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Nickles.

Senator Bingaman?

Gentlemen, I will apologize because the time is squeezing down. Admiral, I don't think you have the Democratic Conference lunch. So, if I could ask you, Senator Bingaman, and Senator Rockefeller to preside. Take as much time as you wish.

Senator BINGAMAN. Well, I have enjoyed hearing the questions of the other members, Mr. Chairman, lengthy though they were.

The CHAIRMAN. I know. I apologize.

Senator BINGAMAN [presiding]. Admiral, let me first say I intend to vote for your confirmation. I congratulate you for being willing to take this job, and I compliment you on the excellent statement you gave to the committee.

In the nuclear weapons complex, the one issue, of course, that directly affects my state is the WIPP project.

The issue that is of most concern publicly and to citizens in our state relates to when waste will go to the site and if so, how much. Some say that waste can go to the site for purposes of proving the safety of the WIPP project, to the extent that scientists demonstrate a need to do that. And there are others who don't think that scientists can demonstrate a need to do that.

But I want to go past that dispute and ask you to comment on another issue. I feel very strongly that, with the exception of waste going to the site to demonstrate safety or to prove up safety of the site, we should not have other wastes go to the site until EPA standards are met. And I think there is some confusion perhaps by virtue of previous statements about whether there might be an effort to move waste to the site prior to EPA standards being met for purposes other than proving safety.

Do you have a position on that? Could you assure us or assure me that, in fact, DOE would not plan to make any such effort until we had the site's safety demonstrated?

Admiral WATKINS. Senator Bingaman, I have not visited the site, and I have only been given the briefings and read the papers on WIPP. And I have had some discussions off-line with others that know about WIPP. I know what the obstacles are to getting on with the project and getting the transuranic waste down there.

We have a reprogramming action on the Hill. We have put in the monies that I think are good faith monies and have met all the requirements up here. We're going to go in for the legislative land withdrawal on an aggressive basis. I don't intend to try to cram anything down anybody's throat. I would like to work with the states, with you and the representation from New Mexico in this case to make this a good, solid aggressively pursued project.

Now, the 3 percent volume that is planned to go in there for research is generally, as I understand it, the equivalent volume of one of the modules. And let's say there are 30 plus modules that will eventually be in that site assuming that it tests out. That fills up that module. I think that if the module had been another size, it might be a different percentage of the waste. It's my understanding that that has to be fully in there, packed in there so that the R&D tests can be run. That's 3 percent volume, and that's the baseline for R&D for the five-year period.

It's also my understanding that there has been a move to try to have an additional volume go in for a total of 8 percent. This would be to take transuranics that are stacked up elsewhere into the rite as additional waste. And, yes, there could be some useful things in running other kinds of retrievable tests and the like.

That is the issue I think you are raising. And I am not certainly committed to the differential between 3 and 8. I don't know enough about it, and I don't think—I think the worst thing we can do is try to use some other rationale to put in the 5 percent differential that isn't clearly explainable. And right now I am not convinced that it's essential. But I do think the 3 percent is probably the order of magnitude of the waste that has to go in to run the research and development test.

Senator **Bingaman**. You say some other rationale. You mean a rationale other than the need to demonstrate the safety of the site.

Admiral **Watkins**. Yes, sir.

Senator **Bingaman**. And you would not favor switching to any other rationale.

Admiral **Watkins**. At this point I have not been convinced about this 8 percent. I'm a little bit worried that we are using that for other purposes.

Senator **Bingaman**. Thank you. I appreciate that.

Let me just as a comment indicate that I think the cooperation and support of the local communities is extremely important in that project. I think the Department of Energy has had that with regard to Eddy County. I think that more can be done to improve the cooperative relationship with Hobbs, McKinley, Leard County, which is the other county that borders on the project.

Let me also indicate that I think the 3 percent figure you mentioned is still an approximate guess and work is underway to determine if in fact that much is necessary. At least that is the information I have.

Let me ask on one other thing. The nuclear weapons cycle has traditionally involved research through production, through waste disposal. One other aspect that I have worked hard in the few years that I have been here on this committee to get the Department more actively involved in is the verification technology needed to determine the compliance with arms control agreements. And that is something that our national laboratories have taken a lead on, but it is something that I personally would like to see them be more aggressive in.

I think as we continue to make progress in arms control, as I hope we will, I think, obviously, we need to make progress in verification research. I would be interested in any comments you have on the priority that that might be given under your administration.

Admiral **Watkins**. Well, I could look at the budget dollars going into both testing, about $484 million, and then into verification and control technology, which is the focal point of your discussion. That's $150 million in fiscal year 1990. That is a level funding.

There have been advances, as you know, made in technologies, competing detection technologies. One of the most promising is in hydrodynamic yield measurement from CORRTEX. This has been successfully used on a number of occasions, and it gives us a very accurate indication of what is really happening. There was a joint verification experiment completed in September with the Soviet Union that was very successful along these lines.

So, I think the Department is aggressive, to the extent $150 million means it. I just don't know what the future level should be. Funding has been relatively steady over the years and whether that is adequate or not, I'm not sure.

I have not been given any indication in my rounds up here on the Hill until you raised it today as well as in my visit with you, that this was a concern, the amount of attention we're giving to it. I do know that it is a very significant part of our defense program and is consciously pursued by our Assistant Secretary for Defense Programs.

Senator BINGAMAN. Let me just make a final comment. As you take on the very enormous tasks of modernizing the defense production or the nuclear weapons production complex and cleaning up the environmental problems that exist, I do think that it is crucial that we not allow the technology base which exists within your Department to be slighted. You earlier referred to robbing Peter to pay Paul. If we wind up undermining that technology base in order to accomplish these other two major objectives, I think we will have done ourselves a disservice. I gather from your opening statement that you agree with that.

Admiral WATKINS. I do agree with that, yes.

Senator BINGAMAN. And I appreciate that very much.

I have other questions relating to the energy issues that I will just submit for the record. And I appreciate very much your willingness to do this.

I guess since I am chairing, I will turn it over to Senator McConnell to ask his questions.

Senator MCCONNELL. Thank you, Senator Bingaman.

You are left, Admiral, with two coal Senators here. I first want to ask that my statement with regard to your nomination be inserted in the record.

[The prepared statement of Senator McConnell follows:]

STATEMENT FOR ADMIRAL JAMES D. WATKINS' CONFIRMATION HEARING

FEBRUARY 22, 1989

SENATOR MITCH MCCONNELL

Mr. Chairman, Admiral Watkins, I am very pleased the Energy and Natural Resources Committee is now holding the confirmation hearing on President Bush's selection for Secretary of Energy. As I stated during the confirmation hearing of Manuel Lujan, I have been extremely pleased with the President's excellent cabinet selections. Admiral Watkins is certainly no exception and I believe that he is a fine choice.

Admiral Watkins brings to the job an impressive, well-founded background in the nuclear field. This background should serve him well in tackling one of the most pressing energy-related problems facing the nation: the cleanup and modernization of the Department of Energy's nuclear weapons plants.

In addition to nuclear weapons plants, there are several important issues facing the new Secretary of Energy. Of critical importance, perhaps, is the formulation of a focused and coherent energy policy. Such a policy is vital to our national economic and political security, as well as to the maintenance of our global defense responsibilities.

U.S. dependence on foreign oil is increasing once again. We are now dependent on foreign suppliers for close to 40% of our crude oil needs. I am sure you would agree, Admiral Watkins, the implications of an over-dependency by this nation on foreign energy sources are ominous indeed.

It may be time to begin taking a closer look at the energy sources available to us in our own back yard. Coal is this nation's most abundant energy resource. It is cheap, efficient, and available. While much has been said recently about the adverse environmental impact of burning coal, the fact is that over the last few years, emissions of sulfur dioxide from coal burning facilities have actually declined. Additionally, new technologies are coming on line which will allow even cleaner burning of coal.

I might add that Kentucky continues to be a leader in the energy and coal industries. Kentucky mines produce more coal annually than any other state. Kentucky also produces some of the cleanest, highest quality coal in the world. Many of the State's coal operators produce coal for export. Obviously, coal is vital to the economy of the Commonwealth.

I urge you, Admiral, to take this important domestic energy source into consideration when you sit down with your advisors to formulate the nation's long-term energy policy.

In closing, Admiral, let me reiterate that I believe President Bush has made an excellent choice for Secretary of Energy. As a new member of this very distinguished committee, I look forward to working closely with you and your department.

Senator McCONNELL. I, second, want to comment your daughter for picking Louisville, Kentucky in which to live. That shows a certain family astuteness that was obviously passed down from her father.

We in my state, of course, are in most years number one in coal production. And our ears tend to perk up when clean coal technology is mentioned. I read that portion of your statement and commend you for it, and noticed what the President had to say with regard to increasing funding for clean coal technology.

The second issue that always is discussed in tandem with observations about clean coal technology is the question of acid rain legislation. I think it is now pretty clear to most people in the coal industry that there is likely to be some kind of acid rain legislation. The issue, of course, is what form is it going to take. And as we discussed in my office, it is the view of many of us that the bill should be coal neutral, that is, not try to promote one segment of the coal industry at the expense of another, and also mandate standards that can be met over a reasonable period of time without major and harmful disruptions within the industry.

There are certain segments in my state and a good portion of the state that Senator Rockefeller represents in which there is not much else but the mining of coal. And if we can't find a way to grapple with this issue responsibly, both in terms of the environment and in terms of coal production, we are looking at massive unemployment and enormous problems.

My question is to what extent are you currently being involved in the formulation of the administration's acid rain proposal. I guess that will be question number one.

Admiral WATKINS. Well, as I mentioned earlier, the Domestic Policy Council in this case will be addressing the President's commitment to come in with the Clean Air Act proposal in the very near future. And this is early in our agenda. We have already talked about it in the Domestic Policy Council meetings. So, clearly it's a front-burner item with the President.

And I have read and reread his statements in the fiscal year 1990 budget amendment that came up here on the 9th of February, and I think the points that he made, his various policies, are very clear in that regard.

I think the concomitant assignment of $385 million to bring us back into the five-year program is another clear indication of President Bush's intent. As you know, we have run two rounds of the five rounds planned for the clean coal technology program, and I think we have given a very solid look at the high sulfur versus low sulfur coal content issue.

And I think that we are going to find in phase three of that program, which this fiscal year 1990 funding will include, is a significant effort to look at the efficiencies in that clean coal technology and look at the potential in round three for significant reductions in the SO_2 and NO_x. That is a little bit different than phases one and two have been to date. And I think that will give—I know this may not affect you, but it gives some of the others a chance to demonstrate that they too can play in the clean coal technology issues for better efficiency.

And we are learning, as I mentioned earlier, that we are getting some byproducts out of the best of the processes under research and development now to get byproducts, such as methanol, which could well be another contributor to a more effective transportation fuel system than we have today.

Senator McCONNELL. How is the discussion within the administration going on? How is it being handled with regard to the impending acid rain legislation? Is Mr. Riley sort of the chairman of the working group? And how is this being addressed within the administration?

Admiral WATKINS. I can't give you the answer on that, Senator, at this point in time. I don't know exactly what the format will be. We will know in the very near future in our future meetings as to how this will be formed up.

We have discussed it in general terms. We know the large number of players that will be involved at the Cabinet level. It is a very serious issue. There are working groups and teams already being established to address this issue.

Senator McCONNELL. I agree completely, and that is why I was a little bit mystified that you testified that the legislation was imminent. It seems to me it is enormously complicated, and I just wondered how——

Admiral WATKINS. I think the "imminent" reference was to the addressal of its coming up on the agenda as the first order of business.

Senator McCONNELL. Oh, the addressing of it as opposed to actually signing off and sending it up.

Admiral WATKINS. I don't know what the status is of any kind of a draft. I have not been involved in that kind of discussion yet.

Senator McCONNELL. You may not want to share these, but if you do, I would be glad to hear them. Do you have any particular view yet as to what form this administration bill should take? Are you advocating any particular form within these councils?

Admiral WATKINS. No, sir, I do not. I do not. There is too much involved, and at this point, I am pleased with the restoration of the clean coal technology program to a five-year program from the expanded 10-year program in the prior Administration. The President put this in as a priority item in this budget, this additional clean coal technology funding. I think that is a very, very important contribution to the agreement we made in the joint U.S.-Canadian envoy agreement.

Senator McCONNELL. One of the things that a lot of us are also interested in being satisfied of is that the Canadians are also not angling for some competitive advantage out of all of this. And we hope that we do not end up placing requirements upon ourselves that are not at least as onerous in Canada. And I think that this is just an incredibly complicated issue.

And if I can leave you with only one thought on it, is that we really must proceed on this issue in a responsible way, or we run the risk of a major, major economic disruption in certain sections of this country. And in our zeal to combat this problem, which I agree exists and I also think we will address, it is terribly important that we do it in a way that minimizes the disruption and in my judgment doesn't discriminate against one segment of the industry at the expense of another, which is a complicated thing to pursue.

I am, with that, going to hand it over to the Senator from West Virginia.

Senator **ROCKEFELLER** [presiding]. Thank you.

Admiral, I want to say it has been a fairly long morning for you. Not only in the meeting which you and I had, but listening to your responses, I look forward to voting for you because I think you have a combination of a strong sense of self and a sense of organization. You have been brought in, I think very properly, by the President because of a particular expertise that you already have. But I have no doubts as to your getting expertise in the other areas of energy very rapidly. And I really think that is admirable. I think you exude a kind of confidence, and I think that is going to go through the ranks of the Department of Energy.

It really is fairly incredible what we have done to ourselves over the years in ignoring the problems. And now everything is coming home.

Senator Nickles was saying a while ago that 2 million barrels could come from ANWR, and I'm sure that is true. And I agree with him. I think that in another few years 60 percent of the oil that we're using is going to be imported. In fact, if you really just take the trade deficits involving oil, Japan, Taiwan and Korea, you have a very large percent of the trade deficit that this country now maintains. And that is at the lower oil import figures that we are now experiencing.

In the meantime, you have 123 million or 187 million, or whatever it is, American cars going around the country burning 100 billion gallons of gasoline a year. And you say why do we do this to ourselves. How can we be so stupid? And then we keep talking in inspirational ways and then doing nothing about it because we are a crisis-driven country. We do not react intellectually to problems. We act emotionally to crises and on the short-term basis.

Now, with that walk-in, you have mentioned, yourself, methanol several times today. And I think methanol really is the fuel of the future. It is going to be from natural gas for a while because it is easier to get, Alaskan-flared. It may come from other parts of the world, and it will come from this country too. Compressed natural gas. You also mentioned that. And coal will be a part. It will not happen immediately.

But it is very interesting to me that we have quite substantial, though diminishing supplies of natural gas, but certainly enough to carry us for a while on methanol. And the supply of coal is simply endless.

Ethanol relates to the midwest. We have unemployed farmers. We have unemployed coal miners, and we have a big trade deficit, and we don't change our patterns. I mean it really is an interesting study, this democratic way that we come to judgments.

In the methanol business, one of the things we have to do is to convince the American public that it makes sense. The problem was that the automobile people didn't want to do anything because they said nobody would provide them with methanol. And, of course, they were correct. And the methanol people, whoever they are who would be chemical companies, oil companies, somebody else who might be making methanol, said, well, there is no demand for it, so why should we be making it. Of course, they were all right.

Now, there is a methanol bill which sort of unlocks that chain and says to the automobile companies that they will get credits against their CAFE standards, and CAFE standards are very key, in fact, in this equation as to how attractive methanol gets to be.

The automobile companies opposed methanol legislation for the most part two years ago. Last year they supported it. And I'm not sure whether some of us were very convincing in our arguments or whether they were taking a look at Japan, its automobile companies joining together coming up with flexible fuel vehicles, and then taking dead aim on a California market, where there is an enormous smog problem, and the California state legislature which is in the process of beginning to mandate the use of methanol. And in fact, Chevron and Arco now locate methanol pumps in Sacramento, Los Angeles, and San Francisco.

So, methanol really is a fuel of the future. And I think methanol really is going to displace oil regardless of what Senator Nickles may feel about it in the coming years. It may be a generation. It may be two generations. But I think it is on its way.

One way that we enhance that and one way that we need to import less oil, obviously, is to demonstrate that it will work. And that is why one has demonstration programs. In the Alternative Fuels Act that was passed last year, there was an emphasis on demonstration and a proper one. In other words, if citizens and legislators see methanol-run buses and methanol-run cars or fleets of cars, they see the Federal Government doing it, they see the City of Charleston, West Virginia using methanol buses, it becomes more understandable, the momentum grows, and the momentum leads us to really doing something about methanol.

My only question to—and I have many which I will submit for the record, but only this one. The budget that the President submitted in terms of methanol demonstration projects is very scant. It's about a million and a half dollars. We didn't ask for a lot, but the million and a half is really scant. I mean, you can't really demonstrate much of anything on that kind of a budget.

One of the things that I think is very good about President Bush is that he is a genuine advocate of methanol, and I can remember a number of occasions where he and I and others were at situations where we were clearly trying to demonstrate that methanol can be and will be the fuel of the future.

I would only ask you, Admiral—and I will submit my other questions—if you would look at the million and a half dollar demonstration budget and try to counsel those in OMB and those with whom you work to increase that number and to help those of us who will be trying to increase that number. It took a long time in this country to get to the point where there was a methanol bill. There are a lot of skeptics out there. And the only way we're going to prove our point is by demonstrating that it works. And that is going to have to be federally funded to begin with. So, I would simply ask that, that you would take a look at that and see if we can't get that figure increased.

Admiral WATKINS. Yes, sir, I would certainly do that.

I believe your comment on the CAFE standard is one of the most significant features of the CAFE standard to give the flexible fuel concept a boost, and clearly it has done that. And I think that is probably one of the most significant incentive factors out there right now.

I mentioned earlier, perhaps before you got here, that there was a DOE news release just recently about the test run in LaPorte, Texas. It was a very impressive test and may well steer us in directions and demonstration projects under the clean coal technology monies that are there to generate the kinds of processes like the integrated gasification combined cycle process that will give us the methanol byproduct as well. So, we're going in a number of directions perhaps not under methanol R&D, but clearly under clean coal technology where those kinds of demonstration projects are being exploited and are showing us great promise.

So, I do think inside the system there is a sensitivity to the importance of coal and all of its ramifications as one of the key natural resources this country has for several hundred years. Four hundred years I believe is the latest projection that I've seen of that resource. And clearly that has to be one that gets a lot of focus, and the President has done that.

Senator ROCKEFELLER. Thank you, Admiral.

APPENDIXES

APPENDIX I

Informational Statement of Admiral Watkins

UNITED STATES SENATE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

STATEMENT FOR COMPLETION BY PRESIDENTIAL NOMINEES

Name: Watkins (LAST) James (FIRST) David (OTHER)

Position to which nominated: Secretary of Energy

Date of nomination: 1-20-89

Date of birth: 7 (DAY) 3 (MONTH) 27 (YEAR)

Place of birth: Alhambra, California

Marital status: Married

Full name of spouse: Sheila Jo McKinney Watkins

Name and ages of children

Katherine Watkins Coopersmith (37)
Laura Watkins Kauffmann (35)
Charles L. Watkins (34)
Susan E. Watkins (31)
James D. Watkins, Jr. (2
Edward F. Watkins (26)

Education

Institution	Dates attended	Degrees received	Dates of degrees
U.S. Naval Postgraduate School, Monterey, CA	7/55 - 9/58	MS Mech. Eng.	9/58
Oak Ridge School of Reactor Technology, Oak Ridge, TN	2/58 - 9/58	None	-
U.S. Naval Academy Annanpolis, MD	6/45 - 6/49	BS	6/49
University of California Berkeley, CA	8/44 - 6/45	None (Freshman year only)	-
Webb School of California Claremont, CA	8/41 - 6/44	Diploma	6/44

Employment record

List below all positions held since college, including the title and description of job, name of employer, location, and dates.

(See attached Addendum Sheet labeled "Employment Record")

Employment record—Continued

Military service: Describe any military service not listed above, including dates, rank, and type of discharge

(See attached Addendum Sheet labeled "Military Service")

Honors and awards: List below all scholarships, fellowships, honorary degrees, military medals, honorary society memberships, and any other special recognitions for outstanding service or achievement.

HONORARY DEGREES:

1) Doctor of Humane Letters, 6/88 - New York Medical College

2) Doctor of Laws, 5/85 - Catholic University of America

3) Doctor of Science, 6/83 - Dowling College

4) Doctor of Humane Letters, 8/82 - Marymount College of Virginia

MILITARY MEDALS: (See attached Addendum Sheet)

Memberships: List below all memberships and offices held in professional, fraternal, business, scholarly, civic, charitable and other organizations.

Organization	Dates	Office held (if any)
U.S. Navy Memorial Foundation	10/87 - Current	Member of the Board of Directors
National Committee for the Vatican Judaica Exhib.	1/87 - Current	Co-Chair Committee
The Army & Navy Club	8/86 - Current	-
U.S. Naval Academy Foundation, Inc.	7/86 - 1/89	Member of the Board of Trustees
The Alfalfa Club	1/83 - Current	(Annual Dinner)

Published writings:

List the titles, publishers and dates of any books, articles, or reports you have written.

ARTICLES:

1) "Tracking AIDS", CUA Magazine, Winter 1988, Catholic University of America
2) "AIDS, Youth and The University",CHANGE, The Magazine of Higher Learning, Sept.-Oct. '88, Heldref Publication
3) "Report of the Presidential Commission on the Human Immunodeficiency Virus Epidemic, June 24, 1988, GPO
4) Navy's Annual Report toCongress for 1983, 1984, 1985 and 1986, published by Navy Department, The Pentagon, Washington, D.C.
5) "The Maritime Strategy", Institute Proceedings, Jan. 1986, U.S. Naval Institute Press

Future employment relationships:

1 Will you sever all connections with your present employer, business firm, association or organization if you are confirmed by the Senate?

Yes.

2 Do you have any plans after completing government service to resume employment, affiliation or practice with your current or any previous employer, business firm, association or organization?

No.

3 Has a commitment for employment after you leave government been made to you by anyone? Have you made any such commitment?

No.

4 *(a) If you have been appointed for a fixed term, do you expect to serve the full term?*

Secretary of Energy -- not for a fixed term.

Future employment relationships—Continued

(b) If you have been appointed for an indefinite term, are there any known limitations on your willingness or ability to serve for the foreseeable future?

No.

Financial statement:

1. **Attach a copy of your Executive Personnel Financial Disclosure Report (SF 278).**

2. **List sources, amounts and dates of all anticipated receipts from deferred income arrangements, stock options, uncompleted contracts and other future benefits which you expect to derive from previous business relationships, professional services and firm memberships or from former employers, clients, and customers. Amounts should be indicated by the categories established for reporting income on Form SF 278, Schedule A.**

None.

3 Are you currently a party to any legal action? If so, describe its nature and status.

No.

4 Have you ever declared bankruptcy? If so, describe the circumstances.

No.

5 Have you filed a Federal income tax return for each of the last 10 years? If not, please explain.

Yes.

6 Has the Internal Revenue Service ever audited your Federal tax return? If so, what resulted from the audit?

Yes, 1976 and 1977 returns — results were in my favor except for very minor fee adjustments. 1976 -- no adjustment; 1977 -- approximately $100 adjustment to IRS.

Potential conflicts of interest:

1. List any investments, obligations, liabilities, or other relationships which might involve potential conflicts of interest with the position to which you have been nominated.

None.

2. Describe any business relationship, dealing or financial transaction (other than taxpaying) that you have had during the last 10 years with the Federal Government, whether for yourself or relatives, on behalf of a client, or acting as an agent, which might in any way constitute or result in a possible conflict of interest with the position to which you have been nominated.

None.

3. Describe any lobbying activity which you have performed during the past 10 years with respect to legislative or administrative actions at the Federal, State or local level.

None.

4. Have you been informed of the conflict of interest laws and regulations applicable to the position to which you have been nominated?

Yes.

Potential conflicts of interest—Continued

5. Explain how you will resolve any potential conflict of interest that may be disclosed by your responses to this form and the attachments thereto. Attach a statement of the appropriate agency ethics official explaining the applicable laws or regulations, any potential conflicts, and the action required to resolve such conflicts.

I have resigned my Directors position with Philadelphia Electric Company and Ford Aerospace Corporation and for the period of my government service I will recuse myself from participation in any matter other than a general rulemaking that could directly affect these companies.

6. Explain how you will resolve any potential conflicts of interest that may arise in the future if you are confirmed for the position for which you have been nominated.

I will consult with appropriate government ethics officials to avoid any potential conflict of interest before they arise or resolve any potential conflict that may arise.

Public disclosure: Do you have any objections to this form and the attachments thereto being made public?

No

AFFIDAVIT

) ss 570-22-9778

I, James D. Watkins being duly sworn, hereby state that I have read the foregoing Statement for Completion by Presidential Nominees, including all attachments thereto, and that the information provided therein is, to the best of my knowledge and belief, current, accurate, and complete.

Jam D. Watk.

(Signature of Nominee)

Subscribed and sworn to before me this ____ day of ________, 19__

____

Notary Public

Form approved by the Committee February 5, 1985.

ADDENDUM SHEET
TO
UNITED STATES SENATE
COMMITTEE ON ENERGY AND NATURAL RESOURCES

JAMES DAVID WATKINS

570-22-9778

EMPLOYMENT RECORD

8/88 to Current
Self-Employed (Consultant)
3225 Grace Street, N.W., #107
Washington, D.C. 20007
Telephone: (202) 342-0302

11/88 to 1/89
Member, Board of Directors
National Center for Health Education
30 E. 29th Street
New York, NY 10016
Telephone: (212) 689-1886
Supervisor: Mr. Clarence Pearson
(Same address and telephone)

10/88 to 1/89
Member, Board of Directors
VESTAR, Inc.
650 Cliffside Drive
San Dimas, CA 91773
Telephone: (714) 394-4000
Supervisor: Dr. Roger Crossley
(Same address and telephone)

9/88 to 1/89
Member, Board of Visitors
New York Medical College
Valhalla, NY 10595
Telephone: (914) 993-4525
Supervisor: Monsignor James P. Cassidy
(Same address and telephone)

7/88 to 1/89
Member, Board of Directors
Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101
Telephone: (215) 841-4000
Supervisor: Mr. Joseph Paquette, Jr.
(Same address and telephone)

6/88 to 1/89
Chairman, Advisory Board
SYNTEK Engineering & Computer Systems, Inc.
6110 Executive Boulevard, Suite 320
Rockville, MD 20852
Telephone: (301) 984-6006
Supervisor: Mr. Reuven Leopold
(Same address and telephone)

5/88 to 1/89
Trustee
Committee for Economic Development
1700 K Street, N.W.
Washington, D.C. 20006
Telephone: (202) 296-5860
Supervisor: Mr. Robert Holland
(Same address and telephone)

4/88 to 1/89
Member, Board of Advisors
Ford Aerospace Corporation
1235 Jefferson Davis Highway
Arlington, VA 22202
Telephone: (703) 685-5520
Supervisor: General Donn A. Starry
(Same address and telephone)

6/87 to 7/88
Member/Chairman
Presidential Commission on the Human Immunodeficiency Virus Epidemic
655 - 15th Street, N.W.
Washington, D.C. 20005
Telephone: (202) 376-2206
Supervisor: The President
The White House
Washington, D.C. 20500

12/86 to 1/88
Consultant
Education Commission of the States
444 North Capitol Street, N.W.
Room 248, Hall of the States
Washington, D.C. 20001
Telephone: (202) 624-5838
Supervisor: Dr. Frank Newman
1860 Lincoln Street
Denver, CO 80295
(303) 830-3600

11/86 to 1/89
Consultant
Carnegie Corporation of New York
437 Madison Avenue
New York, NY 20022
Telephone: (212) 371-3200
Supervisor: Dr. David Hamburg
(Same address and telephone)

11/86 to 10/87
Consultant
Exxon Education Foundation
111 W. 49th Street
New York, NY 10029
NOTE: This office closed about 3/87 and shifted to
Exxon Corporate Headquarters in NJ.
Supervisor: Mr. Robert L. Payton
(Former President of Foundation)
Indiana University of Conference Center 113
850 W. Michigan Street
Indianapolis, IN 46202
(317) 274-4200

10/86 to 1/89
Member, Math/Science Advisory Council
National Executive Service Corps
257 Park Avenue, South
New York, NY 10010
Telephone: (212) 529-6660
Supervisor: Mr. Andrew Popp
(Same address and telephone)

7/86 to 11/86
Self-Employed, (Consultant)
3225 Grace Street, N.W., #107
Washington, D.C. 20007
Telephone: (202) 342-0302

10/82 to 11/86
Member, Board of Trustees
Marymount University
2807 Glebe Road
Arlington, VA 22207
Telephone: (703) 522-5600
Supervisor: Sister Majella Berg
(Same address and telephone)

ADDENDUM SHEET

JAMES DAVID WATKINS

570-22-9778

MILITARY SERVICE

6/45 to 6/86 - Code 1 - Midshipman (4 years)
Commissioned Officer, U.S. Navy
(37 years)

Duty Station	Dates
Chief of Naval Operations Navy Department The Pentagon Washington, D.C. 20350	6/82 to 6/86
Commander-In-Chief U.S. Pacific Fleet Headquarters Pearl Harbor, HI	7/81 to 5/82
Vice Chief of Naval Operations Navy Department The Pentagon Washington, D.C. 20350	8/79 to 7/81
Commander, Sixth Fleet c/o FPO New York, NY 09501	8/78 to 7/79
Chief of Naval Personnel Bureau of Naval Personnel Washington, D.C. 20370	4/75 to 7/78
Commander, Cruiser Destroyer Group ONE USS CHICAGO (CG11) FPO San Francisco, CA 96601	8/73 to 4/75
Personnel Program Manager for Nuclear Power Program and Director, Enlisted Personnel Bureau of Naval Personnel Washington, D.C. 20370	7/69 to 8/73
Executive Officer USS LONG BEACH (CGN9) FPO San Francisco, CA 96601	4/67 to 7/69

JAMES DAVID WATKINS
570-22-9778

Commanding Officer USS SNOOK (SSN592) FPO San Francisco, CA (Now decommissioned)	10/64 to 9/66
Assistant to Director, Naval Reactors, AEC N-Building, Constitution Avenue Washington, D.C. (Building demolished later and Headquarters moved to Crystal City, VA)	3/62 to 10/64
Executive Officer USS SNOOK (SSN592) FPO New York, NY Shifting later to FPO San Francisco, CA (Now decommissioned)	10/60 to 3/62
Student, Bettis Atomic Power Laboratory Course Westinghouse S5W Reactor, PA (Course now disbanded)	9/60 to 10/60
Student, U.S. Navy Nuclear Power Training Unit W. Milton Site Schenectady, NY	4/60 to 9/60
Executive Officer USS BARBERO (SSG317) FPO New York, NY (Now decommissioned)	9/58 to 4/60
Student, Oak Ridge School of Reactor Technology U.S. National Laboratory Oak Ridge, TN	2/58 to 9/58
Student, U.S. Naval Post-graduate School Monterey, CA	7/55 to 2/58
Staff, Commander Submarine Division 52 San Diego, CA (Now located at Ballast Point, San Diego, CA)	11/53 to 7/55

JAMES DAVID WATKINS
570-22-9778

Junior Officer USS VOLADOR (SS490) FPO San Francisco, CA (Now decommissioned)	7/51 to 11/53
Student, U.S. Naval Submarine School New London, CT	1/51 to 7/51
Junior Officer USS Fectheler (DD870) FPO San Francisco, CA (Now decommissioned)	7/49 to 1/51
U.S. Naval Academy Annapolis, MD	6/45 to 6/49

ADDENDUM SHEET

UNITED STATES SENATE
COMMITTEE ON ENERGY AND NATURAL RESOURCES

JAMES DAVID WATKINS
570-22-9778

HONORS AND AWARDS (CONTINUATION)

1. U.S. MILITARY MEDALS (SIGNIFICANT ONES)

Defense Distinguished Service Medals (2)
Legion of Merit (3)
Bronze Star with Combat "V"

2. FOREIGN GOVERNMENT MILITARY MEDALS (HONORARY)

South Korea: National Security Merit

Brazil : Naval Order of Merit - Degree of Grand Official

Spain : Navy Cross of Merit

Portugal : Great Cross of The Military Order of Avis

Japan : Order of The Rising Sun (First Class)

Honduras : Armed Forces Cross

France : Commander in The National Order of The Legion of Honor

Pakistan : HILAL - I - IMTIAZ

Sweden : Order of The Northern Star (Grade of Commander)

SF 278 (Rev. 1/89)
FPM Chapter 734
U.S. Office of Personnel Management

Financial Disclosure Report

Form Approved
OMB No. 3209-0001

Page 1

Reporting Status *(Check Appropriate Box)* ☐ Incumbent ☒ New Entrant, Nominee, or Candidate ☐ Termination Filer	**Agency Use Only** JAN 3 1 1989	**OGE Use Only**	**Date of Appointment, Candidacy, Election or Nomination** *(Mo., Day, Yr.)* January 12, 1989
			Termination Date *(If Applicable)* *(Month, Day, Year)*
Reporting Individual's Name	Last Name Watkins	First Name and Middle Initial James D.	
Position for Which Filing	Title of Position Secretary of Energy	Department or Agency *(If Applicable)* Department of Energy	
Location of Present Office	Address [redacted], State and ZIP Code) Home: 3225 Grace Street, N.W., #107 Washington, D.C 20007	Telephone No. *(Include Area Code)* (202) 342-0302	
Position(s) Held With the Federal Government During the Preceding 12 Months *(If Not Same as Above)*	Title of Position(s) and Date(s) Held Chairman, Presidential Commission on the Human Immunodeficiency Virus Epidemic, 10/87 to 7/88		
Presidential Nominees Subject to Senate Confirmation	Name of Congressional Committee Considering Nomination Senate Committee on Energy and Natural Resources	Do You Intend to Create a Qualified Diversified Trust? ☐ Yes ☒ No	
Certification I CERTIFY that the statements I have made on this form and all attached schedules are true, complete and correct to the best of my knowledge and belief.	Signature of Reporting Individual Jam D. Watk.	Date *(Month, Day, Year)* 1·26·89	
Other Review (If desired by agency)	Signature of Other Reviewer	Date *(Month, Day, Year)*	
Agency Ethics Official's Opinion The information contained in this report discloses no conflict of interest under applicable laws and regulations.	Signature of Designated Agency Ethics Official/Reviewing Official Roger D. Greenberg	Date *(Month, Day, Year)* 2/1/89	
Office of Government Ethics Use Only	Signature	Date *(Month, Day, Year)*	

Reporting Periods

Incumbents: Complete Schedules A, B, C, and Part I of D. The reporting period is the preceding calendar year except for Part II of Schedule C and Part I of Schedule D where you must also include any positions held or agreements or arrangements made from the beginning of the filing year until the date you file.

Termination Filers: Complete Schedules A, B, C, and Part I of D. The reporting period begins at the end of the period covered by your previous filing and ends at the date of termination.

Nominees, New Entrants and Candidates for President and Vice President: Complete Schedules A (except for BLOCK D), C, and D. (Candidates do not file Part II of Schedule D.

- **Schedule A**—The reporting period for income (BLOCK C) is the preceding calendar year and the current calendar year up to the date of filing. Value assets in BLOCK B as of any date you choose that is within 31 days of the date of filing.
- **Schedule C, Part I** (Liabilities)—The reporting period is the preceding calendar year and the current calendar year up to any date you choose that is within 31 days of the date of filing.
- **Schedule C, Part II** (Agreements and Arrangements)—Show any agreements or arrangements as of the date of filing.
- **Schedule D**—The reporting period is the preceding two calendar years and the current calendar year up to the date of filing.

Comments of Reviewing Officials *(If additional space is required, use the reverse side of this sheet)*

Admiral Watkins has resigned from all of the organizations listed in the Addendum Sheet to this Report. He has also divested his interest in Vanguard Preferred Stock Fund. And he is being given advice, in accordance with §606 of the DOE Organization Act, regarding his prior employment with Philadelphia Electric. RDG 1/31/89

(Check box if comments are continued on the reverse side) ☐

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278-110

NSN 7540-01-070-8444

SF 278 (Rev. 1/87)
FPM Chapter 734
U.S. Office of Personnel Management

JAN 31 1989

Form Approved
OMB No. 3209-0002

Reporting Individual's Name		Page Number		Schedule
Watkins, James D.	**Assets and Income**	Page Number	1	Schedule A

All Filers: In BLOCK A report (a) the identity of each asset held for the production of income at the close of the reporting period which had a fair market value exceeding $1000 and (b) any other asset or source of income which generated over $100 in income during the reporting period. This includes but is not limited to employers, stocks, bonds, tax shelters, bank accounts, real property, mutual funds, pensions, IRA assets, assets of certain trusts, commodities futures, personal businesses and partnership interests. Exclude your personal residence unless you rent it out. See instructions for rules on bank accounts and complex holdings.

All Filers: In BLOCK B report the value of each asset listed in BLOCK A which had a fair market value exceeding $1000 at the close of the reporting period.

All Filers: In BLOCK C report the type and amount of income exceeding $100 received from the assets and other sources of income listed in BLOCK A. You must report the **actual amount** of any income not of a type specifically noted below. You need not report the actual amount of your spouse's earned income, only the source in BLOCK A. You may not check "qualified trust" unless you have a blind trust which has been specifically approved by the Office of Government Ethics. If you, your spouse or dependent child are the beneficiary of a trust which no one of you created and has no knowledge of the assets, refer to the instructions to see if it qualifies as an "excepted trust." If "none" (or less than $101) is checked under Category of Amount of Income, no other entries need be made in BLOCK C for that item.

Incumbents and Termination Filers only: In BLOCK D, for any real property, stocks, bonds, commodities futures and other securities listed in BLOCK A, did you purchase, sell, or exchange the item during the reporting period for a value that exceeds $1000?

	BLOCK A Assets & Income Sources	BLOCK B Valuation of Assets							BLOCK C Income																	BLOCK D Transactions Test	
	Identify each asset and income source of yours, your spouse(S) and your dependent child (DC). NONE ☐	Category of Value (X)							Type of Income (X)						Other (Specify Type)	Category of Amount of Income (X)								Actual Amount Only if "Other" Specified	Date (Mo., Day, Yr.) Only if Honoraria	If yes, complete Schd. B Part I for those assets including those sold for a loss	
S or DC		None (or less than $1001)	$1,001-$5,000	$5,001-$15,000	$15,001-$50,000	$50,001-$100,000	$100,001-$250,000	Over $250,000	Dividends	Rent	Interest	Capital Gains	Excepted Trust	Qualified Trust		None (or less than $101)	$101-$1,000	$1,001-$2,500	$2,501-$5,000	$5,001-$15,000	$15,001-$50,000	$50,001-$100,000	Over $100,000			YES	NO
Examples	X Y Z Common				x				x									x						--		x	
	Doe Jones & Smith, Hometown, USA			x											ptnrshp income									$50,000			
1	Navy Federal Credit Union, Washington, D.C.		x								x						x										
2	Executive Manor Assoc., James D. Davis & Sons, Lake Wylie, SC				x										Limited Partnership				x					[illegible]			
3	USAA Mutual Money Market, San Antonio, TX				x													x									
4	Lake Temagami Property, Ontario, Canada				x											x											
5	Vanguard Fiduciary Trust Co., Valley Forge, PA. IRA Mtl Fund / Vanguard Preferred Stock Fund 1/31/89		x								x					x											
6	Fidelity Investments, Dallas, TX; Fidelity Cash Reserves-IRA-Mutual Fund			x							x						x										
7	Evergreen Total Return Fund, Boston, MA; IRA-Mutual Fund		x								x					x											
8	Member, Board of Directors, VESTAR, Inc., San Dimas, CA														Board Income		x							$1,000			

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278-210

SF 278 (Rev. 1/87)
FPM Chapter 734
U.S. Office of Personnel Management

JAN 3 1 1989

Form Approved
OMB No. 3209-0002

Reporting Individual's Name			
Watkins, James D.	**Assets and Income**	Page Number 2	Schedule A

All Filers: In BLOCK A report (a) the identity of each asset held for the production of income at the close of the reporting period which had a fair market value exceeding $1000 and (b) any other asset or source of income which generated over $100 in income during the reporting period. This includes but is not limited to employers, stocks, bonds, tax shelters, bank accounts, real property, mutual funds, pensions, IRA assets, assets of certain trusts, commodities futures, personal businesses and partnership interests. Exclude your personal residence unless you rent it out. See instructions for rules on bank accounts and complex holdings.

All Filers: In BLOCK B report the value of each asset listed in BLOCK A which had a fair market value exceeding $1000 at the close of the reporting period.

All Filers: In BLOCK C report the type and amount of income exceeding $100 received from the assets and other sources of income listed in BLOCK A. You must report the **actual amount** of any income not of a type specifically noted below. You need not report the actual amount of your spouse's earned income, only the source in BLOCK A. You may not check "qualified trust" unless you have a blind trust which has been specifically approved by the Office of Government Ethics. If you, your spouse or dependent child are the beneficiary of a trust which no one of you created and has no knowledge of the assets, refer to the instructions to see if it qualifies as an "excepted trust." If "none" (or less than $101) is checked under Category of Amount of Income, no other entries need be made in BLOCK C for that item.

Incumbents and Termination Filers only: In BLOCK D, for any real property, stocks, bonds, commodities futures and other securities listed in BLOCK A, did you purchase, sell, or exchange the item during the reporting period for a value that exceeds $1000?

BLOCK A Assets & Income Sources — Identify each asset and income source of yours, your spouse(S) and your dependent child (DC). NONE ☐

BLOCK B Valuation of Assets — Category of Value (X)

BLOCK C Income — Type of Income (X); Category of Amount of Income (X)

BLOCK D Transactions Test — If yes, complete Sch. B Part I for those assets including those sold for a loss

S or DC		BLOCK A	B: None (or less than $1001)	B: $1,001-$5,000	B: $5,001-$15,000	B: $15,001-$50,000	B: $50,001-$100,000	B: $100,001-$250,000	B: Over $250,000	Dividends	Rent	Interest	Capital Gains	Excepted Trust	Qualified Trust	Other (Specify Type)	C: None (or less than $101)	C: $101-$1,000	C: $1,001-$2,500	C: $2,501-$5,000	C: $5,001-$15,000	C: $15,001-$50,000	C: $50,001-$100,000	C: Over $100,000	Actual Amount Only if "Other" Specified	Date (Mo., Day, Yr.) Only if Honoraria	D: YES	D: NO
	Examples	X Y Z Common				x				x									x						--		x	
		Doe Jones & Smith, Hometown, USA			x											ptnrship Income									$90,000			
	9	Member, Board of Directors, Philadelphia Electric Co., Philadelphia, PA.														Board Income						x			$23,400			
	10	Member, Board of Advisors, Ford Aerospace Corp., Arlington, VA														Board Income					x				13,500			
	11	Consultant, Education Commission of the States, Denver, CO														Consultant Fee				x					4,352			
	12	Consultant, Carnegie Corp. of New York, Council on Adolescent Development, New York, NY														Consultant Fee			x						1,125			
	13	University of Louisville Law School, Louisville, KY														Honoraria Speech			x						2,000	11-14-88		
		Albert Lasker Foundation, New York, NY														Honoraria Speech			x						2,000	11-18-88		

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FPM Chapter 734
U.S. Office of Personnel Management

JAN 31 1989

Form Approved
OMB No. [illegible]

Reporting Individual's Name				
Watkins, James D.	**Assets and Income**	Page Number	3	Schedule A

All Filers: In BLOCK A report (a) the identity of each asset held for the production of income at the close of the reporting period which had a fair market value exceeding $1000 and (b) any other asset or source of income which generated over $100 in income during the reporting period. This includes but is not limited to deposits, stocks, bonds, tax shelters, bank accounts, real property, mutual funds, pensions, IRA assets, assets of certain trusts, commodities futures, personal businesses and partnership interests. Exclude your personal residence unless you rent it out. See instructions for rules on bank accounts and complex holdings.

All Filers: In BLOCK B report the value of each asset listed in BLOCK A which had a fair market value exceeding $1000 at the close of the reporting period.

All Filers: In BLOCK C report the type and amount of income exceeding $100 received from the assets and other sources of income listed in BLOCK A. You must report the actual amount of any income not of a type specifically noted below. You need not report the actual amount of your spouse's earned income, only the source in BLOCK A. You may not check "qualified trust" unless you have a blind trust which has been specifically approved by the Office of Government Ethics. If you, your spouse or dependent child are the beneficiary of a trust which no one of you created and has no knowledge of the assets, refer to the instructions to see if it qualifies as an "excepted trust." If "none" (or less than $101) is checked under Category of Amount of Income, no other entries need be made in BLOCK C for that item.

Incumbents and Termination Filers only: In BLOCK D, for any real property, stocks, bonds, commodities futures and other securities listed in BLOCK A, did you purchase, sell, or exchange the item during the reporting period for a value that exceeds $1000? ▼

	BLOCK A Assets & Income Sources	BLOCK B Valuation of Assets							BLOCK C Income																	BLOCK D Transactions Test	
	Identify each asset and income source of yours, your spouse(S) and your dependent child (DC). NONE ☐	Category of Value (X)							Type of Income (X)						Other (Specify Type)	Category of Amount of Income (X)								Actual Amount Only if "Other" Specified	Date (Mo., Day, Yr.) Only if Honoraria	If yes, complete Sched. B Part I for these assets (including those sold for a loss).	
		None (or less than $1001)	$1,001-$5,000	$5,001-$15,000	$15,001-$50,000	$50,001-$100,000	$100,001-$250,000	Over $250,000	Dividends	Rent	Interest	Capital Gains	Excepted Trust	Qualified Trust		None (or less than $101)	$101-$1,000	$1,001-$2,500	$2,501-$5,000	$5,001-$15,000	$15,001-$50,000	$50,001-$100,000	Over $100,000			YES	NO
S or DC / Example	XYZ Common				X				X									X						—		X	
	Doe Jones & Smith, Hometown, USA			X											partnership income									[illegible]			
15	2nd Annual International Youth Services Conference, Chicago, IL														Honoraria Speech			x						$1,900	11-15-88		
16	Council of Independent Colleges Annual Presidents Institute, Marco Island, FL														Honoraria Speech			x						1,500	1-4-89		
17	Young Presidents Organization, Los Angeles, CA														Honoraria Speech			x						2,000	11-15-88		
18	National Institutes of Health, Bethesda, MD														Honoraria Speech		x							500	11-30-88		
19	Uniform Services Institute of Health Services														Honoraria Speech		x							500	12-7-88		

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SF 278 (Rev. 1/?)
FPM Chapter ?
U.S. Office of Personnel Management

JAN ? ? 1989

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OMB No. [illegible]

Reporting Individual's Name Watkins, James D.		Page Number	4	Schedule B

Part I
Transactions

Incumbents and Termination Filers only: Report any purchase, sale or exchange by you, your spouse or dependent child during the reporting period of any real property, stocks, bonds, commodities futures, and other securities when the amount of the transaction exceeded $1,000. Include transactions that resulted in a loss. Do not report a transaction involving property used solely as your personal residence, or a transaction between you, your spouse or your dependent child.

NONE ☒ ms 1/31/89

			Type of Transaction (X)				Amount of Transaction (X)					
S or DC		Identification of Assets	Purchase	Sale	Exchange	Date (Mo., Day, Yr.)	$1,001-$5,000	$5,001-$15,000	$15,001-$50,000	$50,001-$100,000	$100,001-$250,000	Over $250,000
	Example:	X Y Z Common	X			2/1/89			X			
1		not applicable ms 1/31/89										
2												
3												
4												
5												
6												

Part II
Gifts, Reimbursements and Travel Expenses

Incumbents and Termination Filers only: Report the source, a brief description and the value of: (1) in-kind gifts of transportation, lodging, food or entertainment received from one source totaling $250 or more unless received as personal hospitality at the donor's personal or family residence; (2) other gifts received from one source totaling $100 or more in value; and (3) cash reimbursements of $250 or more received from one source. Exclude gifts and reimbursements received by your spouse that were given totally independent of their relationship to you. **Exclude** transportation, lodging, food and reimbursements from the U.S. Government. For (1) and (2), **exclude** gifts from relatives and exclude gifts of $35 or less when aggregating them for the total from one source. See instructions for further exclusions.

NONE ☒ ms 1/31/89

S		Source (Name and Address)	Brief Description	Value
	Example:	Nat'l Assn. of Rock Collectors, NY, NY	Airline ticket, hotel room & meals incident to national conference 6/15/83	$500
	Example:	Nat'l Assn. of Rock Collectors, NY, NY	Leather briefcase for retiring president	$125
1		not applicable ms 1/31/89		
2				
3				
4				
5				
6				

PREVIOUS EDITION USABLE

JAN 3 1 1989

SF 278 (Rev. 1/87)
FPM Chapter 734
U.S. Office of Personnel Management

Form Approved
OMB No. 3209-0001

Reporting Individual's Name

Watkins, James D.

Page Number	5	Schedule C

Part I
Liabilities

All Filers: Report liabilities over $10,000 owed to any one creditor at any time during the reporting period by you, your spouse or dependent child. Check the highest amount owed during the reporting period. Exclude a mortgage on your personal residence unless it is rented out, loans secured by automobiles, household furniture or appliances, and liabilities owed to relatives. See instructions for revolving charge accounts.

NONE ☐

		Creditor (Name and Address)	Type of Liability	Date Incurred	Interest Rate	Term if applicable	Category of Amount or Value (X)				
							$10,001 to $15,000	$15,001 to $50,000	$50,001 to $100,000	$100,001 to $250,000	Over $250,000
S or DC	Example	First District Bank, Washington, DC	Mortgage on rental property, Rehoboth Beach, Delaware	1981	13%	30 yrs.			X		
		John Jones, 123 J St., Washington, DC	Promissory note	1979	10%	on demand	X				
1		Executive Manor Associates, James D. Davis and Sons, P.O. Box 5254, Lake Wylie, SC 29710	Limited partnership includes apartment complex in Tulsa, OK and a self-storage complex in St. Petersburg, FL: $30,000 total investment with partners.					30,000 X			
2		not a liability -- listed as asset on Sched. A. 1/31/89									
3											
4		Scotia Bank of Canada, Temagami, Ontario Branch, POH 2H0	Island and cabin complex in Ontario, Canada	8/85	13%	15 yrs		20,000 X			
5											
6											

Part II
Agreements Or Arrangements

All Filers: Report your agreements or arrangements for future employment, leaves of absence, continuation of payment by a former employer (including severance payments), or continuing participation in an employee benefit plan. See instructions regarding the reporting of negotiations for any of these arrangements or benefits.

NONE ☒

	Status and Terms of any Agreement or Arrangement	Parties	Date (Mo., Yr.)
Example:	Pursuant to partnership agreement, will receive capital account & partnership share calculated on service performed through 11/83	Doe Jones & Smith, Hometown, USA	7/79 [illegible]

SF 278 (Rev. [illegible])
[illegible]
U.S. Office of Personnel Management

JAN 3 1 1989

Form Approved
OMB No. [illegible]

Reporting Individual's Name	Watkins, James D.

Page Number	6	Schedule D

Part I
Positions Held Outside U.S. Government

All Filers: Report any positions held during the applicable reporting period. Positions include but are not limited to those of an officer, director, trustee, general partner, proprietor, representative, employee or consultant of any corporation, firm, partnership, or other business enterprise or any non-profit organization or educational institution. Exclude positions with religious, social, fraternal, or political entities or those solely of an honorary nature.

NONE ☐

	Organization (Name and Address)	Type of Organization	Position Held	From (Mo., Yr.)	To (Mo., Yr.)
Examples:	Nat'l Assn. of Rock Collectors, NY, NY	Non-profit education	President	6/83	6/83
	Doe Jones & Smith, Hometown, USA	Law firm	Partner	1/79	11/88
	(Se Addendum)				

Part II
Compensation In Excess Of $5000 Paid by One Source

Nominees and New Entrants only: Report sources of such compensation received by you or your business affiliation for services directly provided by you during the reporting period. This includes the names of clients and customers of any corporation, firm, partnership or other business enterprise, or any nonprofit organization, when you directly provided the services generating a fee or payment of more than $5,000. You need not report the U.S. Government as a source.

NONE ☒

	Source (Name and Address)	Brief Description of Duties
Examples:	Doe Jones & Smith, Hometown, USA	Legal services
	Metro University (client of Doe Jones & Smith) Hometown, USA	Legal services in connection with university construction
	Philadelphia Electric Company, Philadelphia, PA	Member, Board of Directors
	Ford Aerospace Corporation, Arlington, VA	Member, Board of Advisors

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[illegible]

JAN 31 1989

ADDENDUM SHEET
TO
SF 278, EXECUTIVE PERSONNEL FINANCIAL DISCLOSURE REPORT

JAMES DAVID WATKINS

570-22-9778

EMPLOYMENT RECORD

Type of Organization

8/88 to Current
Self-Employed
3225 Grace Street, N.W., #107
Washington, D.C. 20007
Telephone: (202) 342-0302

11/88 to 1/89
Member, Board of Directors
National Center for Health Education
30 E. 29th Street
New York, NY 10016
Telephone: (212) 689-1886
Supervisor: Mr. Clarence Pearson
(Same address and telephone)

Non-profit: medical
(aws 1/3/89)

10/88 to 1/89
Member, Board of Directors
VESTAR, Inc.
650 Cliffside Drive
San Dimas, CA 91773
Telephone: (714) 394-4000
Supervisor: Dr. Roger Crossley
(Same address and telephone)

Corporation: medical technology
(aws 1/3/89)

9/88 to 1/89
Member, Board of Visitors
New York Medical College
Valhalla, NY 10595
Telephone: (914) 993-4525
Supervisor: Monsignor James P. Cassidy
(Same address and telephone)

Educational Institution
(aws 1/3/89)

7/88 to 1/89
Member, Board of Directors
Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101
Telephone: (215) 841-4000
Supervisor: Mr. Joseph Paquette, Jr.
(Same address and telephone)

Electric Utility
(aws 1/3/89)

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6/88 to 1/89
Chairman, Advisory Board
SYNTEK Engineering & Computer Systems, Inc.
6110 Executive Boulevard, Suite 320
Rockville, MD 20852
Telephone: (301) 984-6006
Supervisor: Mr. Reuven Leopold
(Same address and telephone)

Corporation: computer technology (me 1/31/89)

5/88 to 1/89
Trustee
Committee for Economic Development
1700 K Street, N.W.
Washington, D.C. 20006
Telephone: (202) 296-5860
Supervisor: Mr. Robert Holland
(Same address and telephone)

Non-profit organization: educational (me 1/31/89)

4/88 to 1/89
Member, Board of Advisors
Ford Aerospace Corporation
1235 Jefferson Davis Highway
Arlington, VA 22202
Telephone: (703) 685-5520
Supervisor: General Donn A. Starry
(Same address and telephone)

Corporation: communications and electronics systems & equipment (me 1/31/89)

6/87 to 7/88
Member/Chairman
Presidential Commission on the Human Immunodeficiency Virus Epidemic
655 - 15th Street, N.W.
Washington, D.C. 20005
Telephone: (202) 376-2206
Supervisor: The President
The White House
Washington, D.C. 20500

Federal Government (me 1/31/89)

12/86 to 1/88
Consultant
Education Commission of the States
444 North Capitol Street, N.W.
Room 248, Hall of the States
Washington, D.C. 20001
Telephone: (202) 624-5838
Supervisor: Dr. Frank Newman
1860 Lincoln Street
Denver, CO 80295
(303) 830-3600

State compact: research on education policy (me 1/31/89)

JAN 3 1 1989

11/86 to 1/89
Consultant
Carnegie Corporation of New York
437 Madison Avenue
New York, NY 20022
Telephone: (212) 371-3200
Supervisor: Dr. David Hamburg
(Same address and telephone)

Grant-making corporation (me 1/31/89)

11/86 to 10/87
Consultant
Exxon Education Foundation
111 W. 49th Street
New York, NY 10029
NOTE: This office closed about 3/87 and shifted to Exxon Corporate Headquarters in NJ.
Supervisor: Mr. Robert L. Payton
(Former President of Foundation)
Indiana University of Conference Center 113
850 W. Michigan Street
Indianapolis, IN 46202
(317) 274-4200

Non-profit organization: Educational (me 1/31/89)

10/86 to 1/89
Member, Math/Science Advisory Council
National Executive Service Corps
257 Park Avenue, South
New York, NY 10010
Telephone: (212) 529-6660
Supervisor: Mr. Andrew Popp
(Same address and telephone)

Non-profit organization: Educational (me 1/31/89)

7/86 to 11/86
Self-Employed
3225 Grace Street, N.W., #107
Washington, D.C. 20007
Telephone: (202) 342-0302

10/82 to 11/86
Member, Board of Trustees
Marymount University
2807 Glebe Road
Arlington, VA 22207
Telephone: (703) 522-5600
Supervisor: Sister Majella Berg
(Same address and telephone)

Educational Institution (me 1/31/89)

APPENDIX II

Responses to Additional Questions of Admiral Watkins

POST-HEARING QUESTIONS AND ANSWERS

RELATING TO THE

FEBRUARY 22, 1989

HEARING BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

U.S. SENATE

JAMES D. WATKINS
ADMIRAL, U.S. NAVY (RETIRED)

NOMINEE FOR THE POSITION OF
SECRETARY OF ENERGY

QUESTIONS FROM SENATOR JOHNSTON

Question 1: Have you ever been investigated, arrested, charged or held by any Federal, State or other law enforcement authority for violation of any Federal, State, county or municipal law, regulation, or ordinance, other than a minor traffic offense? If so, please explain.

Answer: No.

QUESTIONS FROM SENATOR JOHNSTON

Question 2: Have you ever been convicted (including a plea of guilty or nolo contendre) of any criminal violation other than a minor traffic offense?

Answer: No.

QUESTIONS FROM SENATOR JOHNSTON

Question 3:	Have you ever been disciplined or cited for a breach of ethics for unprofessional conduct by, or been the subject of a complaint to any court, administrative agency, professional association, disciplinary committee, or other professional group? If so, provide details.
Answer:	No.

QUESTIONS FROM SENATOR JOHNSTON

Question 4:	Have you or your spouse ever represented in any capacity (e.g., employee, attorney, business, or political adviser or consultant), with or without compensation, a foreign government or an entity controlled by a foreign government? If so, please fully describe such relationship.
Answer:	No.

QUESTIONS FROM SENATOR JOHNSTON

Question 5: If you or your spouse has ever been formally associated with a law, accounting, public relations firm or other service organization, have any of your or your spouse's associates represented, in any capacity, with or without compensation, a foreign government or an entity controlled by a foreign government? If so, please fully describe such relationship?

Answer: No.

QUESTIONS FROM SENATOR JOHNSTON

Question 6: During the past ten years have you or your spouse received any compensation from, or been involved in any financial or business transactions with, a foreign government or an entity controlled by a foreign government? If so, please furnish details.

Answer: No.

QUESTIONS FROM SENATOR JOHNSTON

Question 7: Have you or your spouse ever registered under the foreign Agents Registration Act? If so, please furnish details.

Answer: No.

QUESTIONS FROM SENATOR JOHNSTON

Question 8: Were all your taxes (Federal, State, and local) current (filed and paid) as of the date of your nomination hearing? If not, please explain.

Answer: Yes.

QUESTIONS FROM SENATOR JOHNSTON

Question 9: Have all your Federal, State, and local taxes always been paid on time? If not, please explain.

Answer: An installment on my 1987 Washington, D.C. property tax was paid 3 weeks late in April 1988. I was on travel with the Presidential Commission on AIDS and filed it upon my return.

QUESTIONS FROM SENATOR JOHNSTON

Question 10: If confirmed, are there any known limitations on your willingness or ability to serve for your full term or until the next Presidential election, whichever is applicable?

Answer: No.

QUESTIONS FROM SENATOR JOHNSTON

Question 11:	Please advise the Committee of any additional information, favorable or unfavorable, which you think the Committee would want to be aware of in considering your nomination.
Answer:	None.

QUESTIONS FROM SENATOR JOHNSTON

Energy Security

Question 12(a): As you know, on January 3, 1989, President Reagan officially transmitted to Congress the finding of the Secretary of Commerce, which the President endorsed, that oil imports "threaten to impair the national security."

Do you agree that oil imports threaten to impair the national security?

Answer: I agree with the Commerce Department's finding under section 232 of the Trade Expansion Act. While the trends are not good, there is currently excess worldwide production capacity of 7-10 million barrels per day. The Department of Energy will continue monitoring the situation.

QUESTIONS FROM SENATOR JOHNSTON

Energy Security

Question 12(b): Does President Bush agree with that?

(If not, will we have to wait eight years to get him to look at the issue officially as we did with President Reagan? I asked for the study in February, 1981, and then again in June, 1985, with 42 other Senators.)

Answer: Yes. In the President's amended budget sent to Congress on February 9, he devoted an entire page to the area of enhancing energy security.

QUESTIONS FROM SENATOR JOHNSTON

Energy Security

Question 12(c): If oil imports are a national security problem, what do you think we should do about it? When?

What you think is important because under Presidential Proclamation No. 5141, issued Dec. 22, 1983, the Secretary of Energy must monitor imports of petroleum, review their status with respect to national security, and inform the President as to further action that is needed to limit oil imports.

Answer: We need to pursue efforts on a number of fronts to enhance our energy security. To maintain a viable domestic oil industry, for example, the President has proposed several measures to increase the amount of oil exploration and production in the United States. In addition, because we are likely to require oil imports for years to come, we need to continue developing diverse oil sources. Moreover, the entire burden cannot fall on the side of supply. We must pursue efficient use of energy by both businesses and households, with particular emphasis on the increasing consumption of transportation fuels. We must pursue technical efficiency gains in new equipment as well as conservation in established uses. We also will have to turn to clean coal technologies, increased use of natural gas, leasing ANWR, filling SPR to its goal, pursuing alternative fuels for transportation, pursuing the safe development of nuclear energy, and supporting research and development for solar and other renewable energy resources to help this Nation through the next century.

QUESTIONS FROM SENATOR JOHNSTON

Energy Security

Question 12(d): Do you think we can produce our way out of our energy security problem?

Answer: No, production is only one of a range of things that we need to be working on, but it is an essential part of the mix. The U.S. oil production base already has been the most extensively explored and developed in the world. Today, we are finding less oil in smaller quantities and, with each decade that passes, the number of large fields that we can expect to find will decrease. Moreover, we will need to offset the expected decline in North Slope production. While the productive potential of ANWR and OCS areas is significant, these areas are the exceptions. The Nation has an estimated 330 billion barrels of oil left in the ground that cannot be recovered with current technology and at today's prices. We can recover about 30 billion barrels of that amount through enhanced oil recovery, and the rest remains a target for new recovery techniques that might be developed. At the same time, we must reduce our reliance on oil through conservation and the development of alternative energy sources.

QUESTIONS FROM SENATOR JOHNSTON

Oil Import Fee

Question 12(e): President Reagan was unwilling to use his authority to impose an oil import fee. Would President Bush regard an oil import fee as a tax or as a fee? Are some taxes fees, and some fees, taxes?

Answer: President Bush has clearly stated his opposition to an oil import fee because of its potentially adverse effects on the economy. Instead, he has proposed several tax relief measures to provide incentives for oil exploration, development, and production. I am very much in support of the President's approach to this issue.

QUESTIONS FROM SENATOR JOHNSTON

NPR Oil Swap to Fill SPR

Question 12(f)(i): I worry that this issue, now recognized as literally a threat to our national security, is going to get laid aside. I would ask that you get back to the Committee with a quick study of what can be done quickly, without passing the buck to Congress.

For example, why couldn't the President use his existing authority to swap the Naval Petroleum Reserve oil for oil to be deposited in the Strategic Petroleum Reserve? That would provide another 70,000 barrels per day to the SPR, right away.

Answer: The exchange of Naval Petroleum Reserve (NPR) oil for oil to fill the Strategic Petroleum Reserve (SPR) is an available option under existing authority. I would like to point out, however, that the Administration's fiscal 1990 divestiture approach -- which requires the purchaser to deliver oil to the SPR until its inventory reaches 750 million barrels -- would avoid the budget scorekeeping problems of last year's divestiture proposal.

If our new approach to divestiture is not approved by Congress, a swap of NPR oil for oil to be used in filling the SPR is possible. There would be a loss, however, in revenues received by the government from the commercial sale of NPR oil. Also, since there are quality differences between NPR and SPR oil -- a portion of the NPR oil does

Answer 12(f)(i) continued:

not meet the SPR specifications -- the swap may not be on a barrel-to-barrel basis. Consequently, the SPR could receive slightly less than a barrel of crude for every barrel of NPR oil.

QUESTIONS FROM SENATOR JOHNSTON

Oil Import Fee

Question 12(f)(ii): Would you provide this Committee an analysis of what new oil production can be expected, and when, if the Congress passed the legislative package that President Reagan sent to Congress a year ago? President Reagan said enacting that would be sufficient to address the oil import problem. Please analyze the 4 oil production incentives that President Bush has proposed.

Answer: The Department's Office of Policy, Planning and Analysis has begun an analysis of the potential production gains from the four oil incentives proposed in the budget. When this work has been completed, I will share the findings with the Committee.

QUESTIONS FROM SENATOR JOHNSTON

Strategic Petroleum Reserve

Question 13: President Bush established in his campaign (Midland, Texas, speech of October 6, 1988) a goal of filling the SPR to 750 million barrels by 1993. The pending Reagan budget request states that their plan, if implemented, would fill it by FY 1996, or three years later. Will you be presenting this Committee with a plan and budget request to accomplish Mr. Bush's campaign goal?

Answer: The Administration is committed to filling the SPR to a level of 750 million barrels expeditiously. In light of our serious budget deficit, however, not all worthwhile objectives can be accomplished as quickly as we would like. If confirmed as Secretary, I will be alert to opportunities for filling the SPR more quickly and will bring those to the attention of the President.

QUESTIONS FROM SENATOR JOHNSTON

Repayment Practices

Question 14: The Administration's budget proposes to alter the repayment practices of the Federal Power Marketing Administrations in order to generate additional revenues. The budget would require annual refinancing of all outstanding PMA debt at current market interest rates. In addition, it would require a repayment schedule based on straight line amortization.

Federal power is sold in my State of Louisiana by the Southwestern Power Administration (SWPA). If the budget proposal is implemented, it would cause an 85% increase in the rates SWPA charges. The rate increase would price SWPA power nearly 40% higher than prevailing wholesale power rates in Louisiana. Thus, rather than generating additional revenues, the budget proposal would cause the U. S. Treasury to lose the $4.5 million in power revenues that it currently receives each year from Louisiana power customers. In addition, the proposal has none of the flexibility needed to deal with varying precipitation patterns.

In light of these facts, how can the budget proposal on Power Marketing Administrations be justified?

Answer: I have not had the opportunity to study this matter thoroughly. I do know that the President has recommended reforming the Power Marketing Administrations' repayment practices to bring them more in line with good business practice. While this might bring some increase in rates in some regions of the country, rates are much higher in other areas. I support the President's budget, and I assure you that I will look closely at how we might alleviate any potential problems.

QUESTIONS FROM SENATOR JOHNSTON

Acid Rain Legislation

Question 15: What role do you expect to play in formulating the Administration's position on acid rain? Have you been consulted on this issue by the White House or EPA? Will the Department of Energy play a role in formulating the Administration's legislative proposal in this area?

Answer: I intend to participate actively in the preparation of the Administration's acid rain program, including forthcoming proposals to strengthen our clean air laws. The process initiated by the President will be interdepartmental in breadth and likely will be coordinated through the Domestic Policy Council, of which I am a member. As I indicated in my appearance before the Committee, this effort will be among the first domestic initiatives undertaken by the Administration. My recommendations will reflect not only the President's commitment to resolve the acid rain issue, but also his commitment to enhance the energy security of this country. I believe both are compatible and achievable goals.

QUESTIONS FROM SENATOR JOHNSTON

Coal Slurry Pipelines

Question 16: The Department of Energy's Security Report of March 1987 endorsed the concept of coal slurry pipelines as making coal transportation more efficient and competitive. Do you support legislation to facilitate the construction of coal slurry pipelines?

Answer: Slurry pipelines could make coal transportation more efficient and competitive by offering another alternative to the traditional modes of coal transportation in the U.S. The development of slurry pipelines has been hindered by difficulties in securing rights-of-way across railroad properties, environmental concerns, and by problems in obtaining water rights to supply the pipelines. The rights of individual property owners and the states must also be protected. With sensitive addressal of these difficulties, I would be pleased to work the Congress in helping to create legislation mutually acceptable to both the executive and legislative branches.

QUESTIONS FROM SENATOR JOHNSTON

Scientific Manpower Challenges

Question 17(a): We have been forewarned of a future shortfall of scientists and engineers and the need to better prepare our young people in these fields. Given the demographic changes in our country, women and minorities will become an even larger portion of our workforce and likewise must be attracted to careers in science and engineering. (See Changing America: The New Face of Science and Engineering, the report of the Task Force on Women, Minorities, and the Handicapped in Science and Engineering for more details.)

What are the agency's goals regarding:

(i) participation of women, minorities, and the handicapped in its own workforce?

(ii) the leverage it can exert through its research and development activities to build a world-class science and engineering workforce that reflects the new demographics of America?

Answer: The Department of Energy, principally through its network of National Laboratories and research facilities, can play an increasingly significant role in the national effort to strengthen our science education system. The education and training of America's young people is an area with which I have been personally involved for some time, and to which I remain personally committed.

The Department operates a research and development complex that includes over 25,000 scientists and engineers working in some of this country's most sophisticated research environments. By utilizing both this technical expertise and equipment, DOE provides education and training opportunities

Answer 17(a) continued:

to young men and women from precollege through post-graduate years, in its effort to make careers in science more accessible to all of this country's most talented young people, and create a diversified scientific and engineering workforce for tomorrow.

The Department's goal for its total workforce is to ensure that there are opportunities for women, minorities, and the disabled to participate in all sectors of employment. My personal goal is to recruit a talented, well-trained, effective, and diversified workforce of technically and managerially excellent Federal personnel, and to provide opportunities for them to do their best work and to advance.

The Department will continue to provide opportunities for all under-represented minorities, including women, to participate in its many research and science education programs, and plans to increase its recruiting efforts to enable greater numbers of women and minorities to take full advantage of DOE-sponsored educational and employment opportunities.

QUESTIONS FROM SENATOR JOHNSTON

Scientific Manpower Challenges

Question 17(b): What new or expanded activities does your agency expect to undertake?

Answer: Historically, the Department has been a strong supporter of university research and science education and has been committed to helping to replenish and to diversify the national science and engineering pool from which we draw to support our extensive research and development activities. In the past few years we have increased significantly our efforts in this area. Today we support about 3,500 graduate students, thousands of faculty researchers, 1,100 undergraduates, 350 high school teachers, and over 2,500 students in grades 7-12.

The Department plans to broaden and increase the level of support for the Pre-Freshman Engineering Program (PREP) aimed at 7th to 10th grade students. The program, which focuses on increasing the number of minorities and women pursuing engineering studies, is conducted by colleges and universities with additional outside matching contributions. The Department also plans to expand the minority research apprenticeship program which provides opportunities, at DOE laboratories, for college freshmen and sophomores to participate in research activities.

Answer 17(b)
continued:

The Department recently has broadened its support for undergraduate students in the laboratory cooperative and Science and Engineering Research Semester (SERS) programs with emphasis on increasing the participation of under represented groups. Currently, approximately one-third of the laboratory cooperative participants are women and 15% are minorities. In order to identify potential minority applicants, DOE is purchasing from the National Action Council for Minorities in Engineering (NACME) a directory of minority students in the field of engineering. This will permit the Department to make direct contact with minority students in the particular disciplines for which the Department has the most need.

DOE encourages the participation of historically black colleges and universities and other predominantly minority institutions in all of the Department's programs. DOE has also undertaken initiatives and increased support for joint DOE laboratory-minority institution consortium activities aimed at strengthening the academic and research capabilities of the participating minority institutions, including the recently established Science and Technology Alliance. This program involves three DOE laboratories and three minority institutions, as well as private industry.

Answer 17(b) continued:

In addition, the Department is planning two new efforts this summer to stimulate and support interest in careers in science and engineering. These efforts include a grant to an educational institution to fund a demonstration project focused on minority high school students with academic deficiencies in mathematics and science. In addition, the Department funds fellowships for students pursuing doctorate degrees in the physical and life sciences, mathematics, computer science, and engineering.

I consider these activities an important part of DOE's mission. DOE is doing a good job in this area, and I would like to see the Department do even more.

QUESTIONS FROM SENATOR JOHNSTON

Scientific Manpower Challenges

Question 17(c):	What special resources does your agency bring to the solution of the problem? How do you plan to capitalize on them?
Answer:	DOE brings two exceptional resources to the solution of this problem: facilities and expertise. Our National Laboratories are home to some of this country's most outstanding scientists, who, through their participation in DOE's research education programs, train and inspire scientists of the future. DOE is establishing Science Education Centers at appropriate laboratories to provide a focus for the broad range of education activities aimed at increasing and improving future manpower resources in energy-related areas. These programs reach thousands of students and faculty and provide major opportunities for expanding and diversifying our scientific and engineering workforce. The Department has been successful in recruiting a high percentage of women and minorities into these programs and will increase its efforts in these areas in the future. In addition, many DOE laboratories provide unique scientific facilities and equipment for conducting energy-related research. DOE currently provides opportunities for students, teachers, and faculty from pre-college through post-graduate levels to utilize facilities as appropriate to participate in a variety of research opportunities.

QUESTIONS FROM SENATOR JOHNSTON

Scientific Manpower Challenges

Question 17(d): Does your agency expect to collaborate with other sectors or influence the roles and activities of other sectors? How?

Answer: The DOE already is working closely with other Federal agencies, State agencies, private industry, and private foundations in support of science education. For example, the Department is cooperating with the National Science Foundation (NSF) in support of pre-college science teacher programs at the DOE laboratories. DOE funding is concentrated at the high school level, while the National Science Foundation is focusing on intermediate school science teaching. DOE staff is working closely with the Department of Education and the various State science education agencies in the selection of high school science teachers for participation in DOE laboratory programs. The States also assist in selecting high school science students for the Department's unique Honors Research Program. DOE also has been a long term member of the Washington Metropolitan Consortium on Engineering Education, which includes members from the Federal and private sectors and the academic community. The Department plans to expand its working relationships with other agencies and groups. No single agency or organization can meet and solve the challenges which face us in science education. All agencies must work together, and DOE will be a full partner in this important effort.

QUESTIONS FROM SENATOR JOHNSTON

Emergency Planning

Question 18: Admiral Watkins, over the next several weeks DOE will have a major role to play with FEMA in drafting regulations to implement Executive Order 12657, signed late last year by President Reagan.

The order asserts a federal role in compensating for inadequacies in utility-drafted emergency plans caused by the refusal of some state and local governments to participate in emergency planning.

Do you intend to fully and personally assert the Department's views with regard to implementing the emergency planning executive order so that its underlying intent is reflected in the forthcoming regulations?

Answer: Yes. The Department currently is playing a major role in formulating the regulations implementing Executive Order No. 12657, which will be published in the Federal Register for public comment. I intend to follow this issue closely.

QUESTIONS FROM SENATOR JOHNSTON

Electricity Policy

Question 19: Electricity issues will be some of the most important issues facing the nation over the next eight years. Some of these issues include the Public Utility Holding Company Act, transmission access, independent power production, utility diversification, nuclear licensing reform, and environmental and other constraints on construction of new U.S. baseload electric generating capacity. Over the past eight years, federal leadership on electric matters has, by default, devolved primarily to regulatory agencies. The FERC, EPA, & SEC now effectively set Administration policy on electric matters through case-by-case rulings and interpretations. Do you anticipate any initiatives on the part of the Department to ensure that DOE assumes the role of developing Administration policy in the electric utility area?

Answer: Because there is little consensus today on the restructuring or regulatory reform of the electric utility industry, a review of current industry trends and proposed institutional changes may be appropriate. I intend to supervise the immediate development of a sound national energy policy coupled to an integrated strategy to carry out that policy. Electricity issues necessarily will play a major role in that policy review.

QUESTIONS FROM SENATOR JOHNSTON

Review of the Electric Utility Industry

Question 20: It has now been almost two decades since the Federal government has conducted a comprehensive review of the electric utility industry. In light of the numerous utility deregulation initiatives now being advanced, would you support such a review? Is the Department the proper entity to undertake this review?

Answer: As I stated in response to Question 19, a comprehensive review of the electric industry is appropriate. The primary purpose of that review would be to provide a basis for possible reexamination of national energy policy as it affects the electric utility industry. Moreover, because it would encompass broad policy issues, I think the Department of Energy would be the appropriate agency to conduct such a review.

QUESTIONS FROM SENATOR JOHNSTON

Departmental Organization

Question 21: **Under the Department of Energy Organization Act the Department has eight Assistant Secretaries. Various groups have proposed a reorganization of the responsibilities of these Assistant Secretaries. Do you have any intentions of reviewing the current organization of DOE with an eye towards potential reorganization?**

Answer: At this time I have not made any decisions with respect to the assignment of responsibilities among the Assistant Secretaries. I do intend, however, to move quickly to enhance management of some of the high priority programs and complex issues which must be dealt with immediately in order to accomplish the Department's mission. Over the coming months, I intend to evaluate the present structure and management control systems and, as a management team for the Department is being put together, make appropriate changes. The authority provided by current law to make changes in assignments is an important management tool for the Secretary.

QUESTIONS FROM SENATOR JOHNSTON

Defense Cleanup and Modernization

Question 22(a): Obviously, you have a major job ahead of you in dealing with the modernization and cleanup of the Department's defense nuclear facilities. A big part of that job will be to restore the Department's credibility by demonstrating your ability to operate these facilities safely and to clean up environmental problems. This job will take money and it will take strong leadership and commitment on your part. Your success or failure at this job will have major ramifications for all other DOE nuclear programs and for the civilian nuclear power option.

Will you please outline for the Committee your strategy for dealing with these issues?

Answer: I firmly believe that the modernization actions can be accomplished safely and without insult to public health and environment. I intend to work on the cleanup of the environmental problems caused by over 40 years of production to assure that the Department is in compliance with Federal and State requirements.

As I stated in my comments before the committee, the management of radioactive waste presents nearly the same challenges as the weapons production complex in bringing a sensible balance between competing needs. The principle is the same: safety, health, and environmental standards are religiously met in concert with both civilian and defense objectives. The DOE culture has evolved from such heavy emphasis on achieving production goals that problems relating

Answer 22(a)
continued

to safety, health, and the environment have not only been backlogged to intolerable levels but, in effect, hidden from public view until recently. So, we are now paying the price for this long-term cultural misdirection.

The job of effecting fundamental cultural change is obviously more difficult than changing equipment. It will require a new brand of informed and inspirational leadership, beginning with me and permeating down through every level of management, both within the Department and without, to its field offices and contractors. I will organize a management team that understands how to motivate people, how to achieve and reward excellence, and how to reject and deal firmly, fairly, and swiftly with incompetence. That is what the United States must have in the Department of Energy. This is what we must demonstrate to you and to all Americans so that we in the Department can begin to regain the credibility needed to get on with the complex energy-related tasks at hand. If confirmed, I intend to take the Department in that direction.

QUESTIONS FROM SENATOR JOHNSTON

Savannah River Production Reactors

Question 22(b): In connection with your plans for the modernization and cleanup of our defense materials production facilities, you mentioned your need to establish a "ground truth." What exactly did you mean by "ground truth" and how do you intend to establish it?

Answer: "Ground truth" is a military phrase relating to the comparison of remotely-sensed information and intelligence, obtained from a variety of independent sources, with locally obtained information at the scene of intended action or on the "ground." When these two compare well, then the commander knows he is ready to execute his operation with high hopes of success. As the Secretary-Designate, and if confirmed as the incoming Secretary, I believe it is essential for me to validate "ground truth" for the state of affairs in our Defense Complex -- to serve as a baseline for my planning and decision-making as I commence a "successful operation" in the cleanup, modernization, and proper operation of our defense facilities.

Specifically in terms of obtaining "ground truth" on our preparedness for start-up of the Savannah River production reactors, I asked the Acting Secretary to have the Idaho National Engineering Laboratory (INEL) tasked to initiate, through its prime contractor, EG&G, a management review of the Department's plans for restart of the Savannah River

Answer 22(b)
Continued:

production reactors. This review by a team of experts will address the overall completeness and adequacy of these plans, both from a technical risk point of view as well as a consideration of schedule and resources. This review will extend to all elements of the Defense Program relevant to this effort.

This management review will not duplicate the variety of activities already underway by DOE and other agencies. Neither will the INEL review impede or replace ongoing oversight activities or usurp the responsibility of line management. Rather, this review will provide me with an integrated overview of progress and planned activities and inform me of any further actions necessary to achieve restart objectives in a responsible and timely fashion.

QUESTIONS FROM SENATOR JOHNSTON

Defense Cleanup and Modernization

Question 23: Management and control of the Department's weapons complex over the years has been largely decentralized, with DOE's field offices given great latitude in making decisions affecting the operation of these facilities. I am concerned that this decentralized way of managing these facilities has, in fact, contributed to the problems now facing the weapons complex.

Do you agree with the need for more centralized management? What are your plans, if any, for addressing this problem?

Answer: I am reviewing thoroughly the current management control of the nuclear weapons complex. As previously stated, I am concerned about past management and contractor relationships and intend to institute changes that may be required not only to accomplish the job but also to restore credibility to the Department.

I will consider any organizational changes necessary to assure my policies will be implemented fully. It is premature to take a firm position concerning decentralized versus centralized management until my review is complete. I am an advocate of the notion that clear lines of authority and accountability, at each management level from me right down to the manager of the field activities, are prerequisites for excellence in performance.

QUESTIONS FROM SENATOR JOHNSTON

Defense Cleanup and Modernization

Question 24(a): The cost estimates for cleanup and modernization of the weapons complex are astounding, with estimates ranging to as high as $200 billion. Obviously, this money will be very hard to come by without sacrificing the very important energy programs at the Department.

Do you feel comfortable with these cost estimates? Can you put these costs into some perspective for us? What exactly will $200 billion buy us?

Answer: I have not yet had the opportunity to review in detail the entire range of cost estimates for projects that will allow us to modernize our production capacity, bring our operations up to appropriate environmental, health and safety standards, and begin to clean up areas of environmental contamination. It is my belief that to generate accurate estimates, each site must be individually evaluated and solid five-year baseline figures established. As I have not yet fully examined existing cost estimates, I can offer no opinion on their validity.

QUESTIONS FROM SENATOR JOHNSTON

Defense Cleanup and Modernization

Question 24(b): How will you prioritize these cleanup and modernization efforts? Do you have sufficient information yet to determine what projects should come first? If not, when will you be able to set priorities?

Answer: As indicated in the modernization study, first priority must go to environmental, safety, and health corrective actions to assure that the Department functions in compliance with all applicable Federal and State requirements. Along with this, the supply of nuclear material must be assured for maintenance and modernization of the nuclear weapons stockpile. Of equal importance is the cleanup of the environment; however, we must first characterize and assess the extent of contamination and potential risk. The highest priorities will be assigned where the highest risks to the environment and public are found. High priority containment sites are being addressed now. I expect overall priorities to be established in the FY 1991 budget formulation process.

QUESTIONS FROM SENATOR JOHNSTON

High-Level Nuclear Waste

Question 25: This Committee focused a great deal of attention in 1987 on the Department's nuclear waste program and succeeded in enacting legislation to get on with developing a nuclear waste repository site. The 1987 Act directed DOE to conduct site characterization at the Yucca Mountain, Nevada site. Implementation of this Act, in my view, is essential to your success in cleaning up the defense facilities as well as essential to the future of the nuclear option in this country. The waste program, however, has not had a Director since 1987. We are spending millions of dollars a year, but I am concerned that we are not making the progress that we should be.

Do you agree with the importance of success of this program? Will you give this Committee your personal commitment to find a top-quality director for the waste program expeditiously?

Answer: I agree that the success of the waste management program is of utmost importance, and I am fully committed to the successful implementation of the provisions of the Nuclear Waste Policy Act of 1982, as amended by the Nuclear Waste Policy Amendments Act of 1987.

A top priority of mine will be to seek outstanding individuals to fill all the key departmental positions. I give you my personal commitment to finding a top-quality Director for the waste management program.

QUESTIONS FROM SENATOR JOHNSTON

High-Level Nuclear Waste

Question 26: Now that the nuclear waste program is focused on the Nevada site, I believe that this program should proceed as would a construction project. The job to be done is in Nevada. We need to get on with underground exploration and testing at the site and most of the resources should be focused on that effort. I believe it may be necessary to reorganize the structure of the waste office to conduct an effective program.

Have you had a chance to examine the waste issue? If so, could you tell this Committee your strategy for ensuring that the program remains on track toward the goal of waste disposal?

Answer: With regard to the strategy that I intend to use, first let me state that the safe disposal of nuclear waste is a task that will receive priority attention by this Administration. We have to start the flow of waste to permanent disposal in a timely and predictable manner. Second, I intend to organize the best management team that I can assemble and provide them with the leadership, motivation, and incentives needed to get the job done. This means doing it right the first time, with confidence in an established schedule. Fundamental to the success of this effort is that all the work be done under an effective quality assurance program, so that the information acquired is valid and usable in the licensing process.

QUESTIONS FROM SENATOR JOHNSTON

High-Level Nuclear Waste

Question 27: The nuclear waste program for years was one of the few growth areas within the Department's budget. However, that is no longer the case. Resources for this program will likely be as scarce as for any other program. I am concerned that we are wasting a lot of money on duplicative work by contractors. I am concerned that contractors' work is not as well coordinated as it could be.

What are your plans for examining this issue? Will you be willing to cut out any fat in the waste program?

Answer: Not only will we be willing to "cut out any fat" in the waste program, we will be aggressive in seeking to do so at every opportunity. A significant step in that direction already has been taken with the recent selection of a management and operating contractor for the program. A major focus of the management and operating contractor will be to eliminate duplicative efforts.

QUESTIONS FROM SENATOR JOHNSTON

High-Level Nuclear Waste (MRS)

Question 28: As you may be aware, this Committee has long been an advocate of monitored retrievable storage, or MRS. It was at our insistence that the MRS was included in the 1982 Act and in the 1987 Act. I believe that we simply must have an MRS in the waste program in order to get real, hands-on experience with high-level waste management in this century.

Do you have any personal view of the MRS? Will you give this Committee your commitment to look closely at the merits of MRS?

Answer: At this juncture, I only have a feeling that MRS is a useful concept. But, as you know, studies currently are under way both within the Department and by the MRS Review Commission, which was established by the Nuclear Waste Policy Amendments Act of 1987. The Commission is required to report to Congress this year with its recommendations on the MRS. I give the Committee my firm commitment to look closely at the merits of the MRS.

QUESTIONS FROM SENATOR JOHNSTON

Opening of the Waste Isolation Pilot Plant

Question 29: The Waste Isolation Pilot Plant is where transuranic waste from defense facilities will be shipped to. Opening of this facility will be an important step in demonstrating that the defense waste cleanup is underway. Failure to open the facility will simply clog the system. The Department has entered into agreements with the State of New Mexico concerning operation of the facility, and the facility is essentially ready to open. The Department has filed a request for administrative land withdrawal with the Bureau of Land Management.

What are the Department's plans for pursuing a legislative land withdrawal?

Will you support the Committee's efforts to pursue a land withdrawal expeditiously through legislation?

Answer: The Department believes that legislative land withdrawal is the preferred approach for obtaining the authority necessary to place waste in the Waste Isolation Pilot Plant (WIPP). We also agree that there are a number of concerns that must be resolved successfully before WIPP will be opened, and activities are underway to reach such resolution. I am looking forward to working with the Committee in its efforts to pursue land withdrawal expeditiously through legislation.

QUESTIONS FROM SENATOR JOHNSTON

Uranium Enrichment

Question 30: In the last Congress, the Senate passed legislation that would establish a government corporation to operate the DOE uranium enrichment business. We were persuaded by DOE and others that, unless changes were made in DOE's ability to carry on the enrichment business, domestic utilities would seek enrichment services elsewhere. This would threaten DOE with the loss of a billion dollar enterprise and could have other very significant policy implications as well (loss of leverage over other national nuclear programs and spread of enrichment technology to other countries).

Sen. Ford intends to reintroduce the legislation establishing a government corporation to manage the uranium enrichment program, and to assign a high priority to passage of the bill.

Have you been briefed on the current situation and future prospects of the DOE uranium enrichment program? If so, what is your view of the situation?

If not, I urge you to look into the long-term prospects for the DOE enrichment enterprise under current law. I think you will find significant problems.

I also urge you to be briefed on the enrichment corporation we passed in the Senate last Congress. We plan to reintroduce the bill in this Congress.

We need your recommendations on this matter as soon as possible.

Answer: I have been briefed on the uranium enrichment program in general as well as the need for and efforts to establish a Government corporation. I am pleased that the President's budget clearly supports the establishment of a wholly-owned Government corporation to assume responsibility for DOE's

Answer 30 continued:

uranium enrichment program. I personally believe that this is a sound idea. The Department does not have the flexibility or discretion to compete effectively in the tight world market which has developed. The U.S. uranium enrichment enterprise is a valuable national asset. Maintaining it as a strong healthy business has important energy security and national security implications.

QUESTIONS FROM SENATOR JOHNSTON

Uranium Enrichment

Question 31: **According to the budget documents submitted to us already, DOE has developed a draft bill that would transfer the DOE enrichment business to a government corporation. However, this bill has never been sent to Congress.**

Please report to us on the status of this draft bill, provide us with a copy of the current draft, and give us your views on the bill.

Answer: The Department is in the latter stages of preparing legislation. Once the Department has a finished bill, I certainly will be glad to provide the Committee with a copy and look forward to working with the Committee on its adoption.

My personal view is that restructuring DOE's uranium enrichment enterprise by establishing a wholly-owned Government corporation is highly desirable. The major benefits that would accrue from our restructuring proposal include:

- An assured supply of low cost uranium for the Nation's nuclear power plants as well as for the Navy.
- The maximum return on the Government's investment.

Answer 31 continued:

- A responsible approach to decontamination and decommissioning.
- The best prospects for utilizing advanced laser enrichment technology.

Uranium enrichment is a valuable asset which was pioneered by the United States. I believe the Administration's bill will accomplish this restructuring in such a way as to provide the basis to sustain a healthy competitive U.S. enrichment business.

QUESTIONS FROM SENATOR JOHNSTON

Uranium Enrichment

Question 32(a): The Committee has received reports that sales of uranium and enrichment services by the Soviet Union and China are being made to domestic utilities either directly or by displacement.

Have you been briefed on this development?

Answer: Yes, I have been briefed on this matter and am quite concerned about the situation.

QUESTIONS FROM SENATOR JOHNSTON

Uranium Enrichment

Question 32(b): It has been suggested that Soviet sales of enrichment services to U.S. utilities now represent a genuine threat to DOE's market share.

Could you evaluate this contention and report back to the Committee?

Answer: Yes. Based on proprietary and Government confidential commercial information, the Department is concerned that sales of Soviet enrichment services to U.S. utilities do in fact pose a very real threat to DOE's market share. The Department would be pleased to provide the details of these transactions directly to the Committee, subject to appropriate safeguards.

Between 1974 and 1988, DOE's market share of enrichment services to the free world was reduced from 100 percent to about 45 percent due to the introduction of foreign enrichment capacity, primarily European. Today, U.S. utilities represent the largest market for uncommitted enrichment services. The Soviet Union, with an enrichment capacity of over 10 million SWUs/year, has about 3 million available for commercial sales. With excess capacity and a need for hard currency, the Soviet Union has been receptive to opportunities to sell enriched uranium to U.S. utilities both directly and indirectly through brokers. I understand that enriched uranium has been offered in the U.S. market at

Answer 32(b) continued:

prices of $60 to $65/SWU, which is nearly 50 percent lower than DOE's current price. During the 1986-1988 period, sales of Soviet enrichment services to the United States have resulted in sales losses of over $170 million to DOE. Additional losses of $90 million could occur in 1989. With a U.S. market at risk of about $1.7 billion in the 1990-1998 period, the Department takes any threat to its market share very seriously.

With respect to uranium, about $140 million in sales that could have been met by the U.S. uranium industry potentially may have been displaced during the 1986-1988 period. DOE estimates that as much as $800 million in U.S. uranium sales over the 1990-1998 period could potentially be displaced by the Soviet Union, as other foreign producers.

QUESTIONS FROM SENATOR JOHNSTON

Advanced Nuclear Reactor R&D

Question 33: The budget proposal submitted to us for fiscal year 1990 provides $353 million for nuclear energy R&D, about the same total as was appropriated for fiscal year 1989. Of this $353 million, only about $50-60 million can be realistically identified with as R&D on better civilian nuclear power reactors to produce electricity for utility grids.

The details:

1. Program management increases from $10.7 million to $11.0 million.
2. R&D on advanced light-water reactors is cut back slightly, from $26.8 million to $24.0 million.
3. Advanced reactor research (HTGR, LMR, integral fast reactor) is cut from $76.0 million to $32.7 million.

Items 2. and 3. represent real civilian power reactor research.

4. Nuclear R&D for space and defense increased slightly from $103.7 million to $105.2 million.
5. Facilities costs increase from $137.7 million to $180.0 million.

The sum of the last two items - about $285 million - represents 80% of the nuclear R&D budget, but it has little or nothing to do with developing better nuclear reactors for utilities to buy.

I assume you hope to see a revival of the civilian nuclear power option.

Do you see any urgency in bringing about that revival?

Answer: Yes. Current estimates are that the excess reserve capacity in the U.S. grid may be eliminated as early as the mid-1990's. Nuclear power must be available at that time as an option for the required capacity additions. It is critical to expedite

Answer 33 continued: needed technology development and reform of the nuclear licensing process to ensure the availability of the nuclear option.

QUESTIONS FROM SENATOR JOHNSTON

Advanced Reactors

Question 34: What are your views on the following elements of such a revival? New reactor licensing process? New reactor technology? Would we need to demonstrate the technology first? Other (Stronger waste management program)?

Answer: Reform of the process by which nuclear power plants are licensed to be constructed and operated must occur before U.S. utilities will order new nuclear power plants, regardless of the availability of new reactor technologies. The Nation's financial community, for example, considers the current regulatory process unpredictable. Thus, the addition of new nuclear capacity is process-limited. As we have demonstrated here and abroad, the U.S. has the technology to build and operate safe, reliable, and economically sound nuclear power plants. In addition, DOE and U.S. industry are developing a new generation of reactors that will employ passive safety features.

Some reactors, such as the advanced light water reactor utilizing passive safety features and commonality and simplicity in design, can be constructed and operated without the need of a demonstration plant. More advanced designs, with the potential for further breakthroughs in passive safety, waste management, resource conservation, and increased use of modularization, probably will require a first plant demonstrating these features before full acceptance by the commercial sector.

Answer 34 continued: In addition to regulatory reform and technology improvements, there are other prerequisites to a nuclear revival. The high-level waste management program must develop a reliable timetable that will provide confidence that the repository will be available no later than the scheduled 2003 date; the system of economic regulation of electrical generation must be improved to properly provide a balance between risk and reward; and our Nation's utilities must continue to demonstrate an excellent operating record to earn continued public confidence in their ability to operate nuclear power plants safely and reliably not far from their homes.

QUESTIONS FROM SENATOR JOHNSTON

Advanced Reactors

Question 35: I want to have a nuclear R&D program that hastens the revival of the nuclear option - moves forward the day when utilities will order nuclear plants if they need them. The budget submitted to us appears to provide about $50 million or $60 million for this task, out of a total nuclear R&D budget of $350 million. About 80% of the money provided for nuclear R&D has little or nothing to do with developing better civilian reactors.

Does this make sense to you?

Answer: An appropriate balance must be struck in the budget between the development of civilian nuclear power reactors for utilities and the application of nuclear power technology for other civilian and defense purposes. The emphasis in the budget on developing better civilian reactors to produce electricity for utility grids goes beyond the $57 million applied to light water and advanced reactor R&D, as these activities are strongly supported by the facilities and program management budgets ($180 million and $9 million respectively). The facilities program involves testing of major components and key features and provides the technical basis for demonstration of passive safety features and design capability. Thus, $246 million or almost 70% of the funds requested for nuclear R&D support the development of better civilian reactors.

In addition, the civilian high temperature gas reactor has a high degree of commonality with the high temperature gas

Answer 35 continued: production reactor. The civilian reactor will benefit from as much as $57 million of the $89 million requested for research and design work in the FY 1990 budget on the production reactor. This, along with private sector and international cost sharing, considerably increases the nuclear R&D budget for advanced reactors.

QUESTIONS FROM SENATOR JOHNSTON

Advanced Reactors

Question 36:	Last Congress I introduced legislation that would redirect the DOE nuclear R&D program to use more of the money available to the program for developing reactor technologies utilities for a demonstration in the next decade or so. The bill provides for a demonstration in 1990's of advanced nuclear reactor technology (passive safety features, modularity, standardized designs). I'd very much like your views on this bill. (It was S. 2779 in the 100th Congress).
Answer:	The program defined by the legislation which you introduced in the last Congress is, I believe, mutually compatible with the fundamental goals and objectives of the Advanced Reactor Development Program. The research and development programs are currently focused on modular designs which offer significant improvements in economics, safety, licensability, and waste management. Each of the concepts being developed, the advanced light water reactor (ALWR), advanced liquid metal reactor (ALMR), and the modular high temperature gas reactor (MHTGR) offer distinct contributions. The ALWR is the most likely next utility order. The MHTGR appears promising for the end of the 1990's while the ALMR most likely will not be available or needed before the turn of the century. It is my intent to work closely with you and Congress in determining an integrated strategy, including appropriate legislative initiatives, that will assure that the most efficient and effective path is defined for concluding successfully the

Answer 36 continued: development of the most promising reactor concepts and assuring their availability to meet the energy needs of the Nation.

QUESTIONS FROM SENATOR JOHNSTON

Great Plains Divestiture

Question 37: Section 317 of the Fiscal Year 1988 Appropriations Act for the Department of the Interior and Related Agencies (P.L. 100-202) required that the Department of Energy provide this and other committees of the Congress with thirty days advance notice of the Department's intent to enter into a binding contract for the sale of the Great Plains Coal Gasification Project.

In his August 25, 1988 report to this Committee concerning the Department's intended divestiture of the Project, Secretary Herrington asserted that the net present value to the government of the consideration to be received from the purchaser of the Project (subsidiaries of the Basin Electric Power Cooperative) would be "approximately $600 million." Further, Secretary Herrington told the Committee that "part of the economic value associated with the transaction" would be the purchaser's waiver of any rights to claim future Production Tax Credits (PTC).

It has come to the attention of the Committee that the Department recently advised its investment banker, Shearson Lehman Hutton, that it does not now consider the PTC waiver to have comprised part of the consideration received by the government in the divestiture.

Has the Department revised its estimate of the value of the Great Plains divestiture from that which was reported to the Committees of the Congress last August? If so, why and on what basis was the estimate revised? And what is the Department's view as to the effect of any such revision on its compliance with the 30-day notice provisions of P. L. 100-202?

Answer: The Department has not revised its estimate of the gross economic value since the Report to Congress last August. As the Department has not revised its estimate of value received for the Project, the Department believes that the submission of the Report to Congress on August 25, 1988, complies with the 30-day notice provision contained in section 317 of Pub. L. No. 100-202 since the sale occurred on October 31, 1988.

QUESTIONS FROM SENATOR METZENBAUM

State and Local Assistance Programs

Question 38: In response to a question at today's hearing you indicated that your understanding of the rationale behind the proposed elimination of funding for the State and Local Assistance Programs for energy conservation was that these programs had been sunset due to the distribution of oil overcharge funds. Although the Office of Management and Budget has in fact offered that rationale for several years now, the oil overcharge funds are actually funds recovered from numerous oil companies that illegally overcharged customers during the period of price controls on oil. The distribution of these funds, through the States, is intended to restitute the customers who bore the burden of the initial overcharge.

Do you favor continuing the restitution of aggrieved consumers through the distribution of the oil overcharge funds to the States? Wouldn't replacing SLAP appropriations with oil overcharge moneys in effect end that restitution?

Answer: In settlements of oil overcharge cases, the courts decided that because it was not practical to locate or make restitution directly to each individual consumer who had been overcharged, the funds could instead be distributed in bulk to States, which could use these monies as if they had been received under Federal energy conservation and assistance programs.

Many States have received significant funds under this restitution plan and are using them to carry out energy conservation and assistance programs, thereby decreasing the need for DOE to contribute funds for these same programs, as the money is already there.

Answer 38
continued: Under my direction, the Department of Energy will continue to carry out the instructions of the courts in returning oil overcharge funds to the States.

QUESTIONS FROM SENATOR METZENBAUM

Alternative Energy Competitiveness

Question 39: In recent years we have seen a decrease in the domestic production of alternative energy equipment. For example, in photovoltaics and energy-efficient appliances, the U.S. has lost the international leadership position it once had to Japan. Similarly, in the wind industry about 50 percent of the wind turbines installed in the U.S. in recent years were manufactured in Denmark.

What do you feel is the role of the Department of Energy in helping to sustain the domestic alternative energy industry and improve its competitiveness? Do you believe that the Department's proposed fiscal 1990 research and development budget is best suited to bringing on-line commercially competitive alternative energy technology?

Answer: Although Japan and Denmark are major U.S. competitors in renewable energy technology and sales, U.S. industry, working with DOE, can hold its own in many areas. In photovoltaics, the U.S. and Japan matched each other in sales in 1988. The U.S. sold twice as many photovoltaic products for power systems as Japan, while Japan continues to lead in the sales of photovoltaics for small consumer products. Many new power products have recently been introduced by U.S. manufacturers, and I look forward to the effect that they can have in this year's sales. In addition, the U.S. has captured the lead in research advances in the thin-film technology. In wind, European industry and markets are expanding rapidly, but U.S. industry held on to over half of the domestic market in 1988. Currently the U.S. is believed to have a technological edge over its European competitors.

Answer 39 continued:

DOE's primary role has been to support essential longer-term research, in cooperation with industry and universities, that can help U.S. industry maintain and improve its competitiveness. Its research priorities have been developed in close cooperation with U.S. industry. The FY 1990 request is designed to achieve the goals laid out in the Renewable Energy Multi-year Plans. In addition, DOE strongly supports the interagency Committee on Renewable Energy Commerce and Trade (CORECT) which coordinates activities to improve the export posture of U.S. renewable energy industries. Coordinated action by the participants in CORECT has been successful in producing a number of trade development opportunities for U.S. industry in what is becoming an increasingly competitive renewable energy global market.

The Fiscal Year 1990 budget request has been developed taking industry's needs into consideration and will support industry's efforts to continue to bring on-line competitive alternative energy technology for the country's future energy needs.

QUESTIONS FROM SENATOR WIRTH

2010 Modernization Plan

Question 40(a): President Reagan last month submitted a long-awaited modernization plan for DOE's nuclear weapons facilities. Although lacking in detail, the plan made a number of bold recommendations for rebuilding and consolidating the complex -- including phasing out Rocky Flats in my state.

Admiral Watkins, have you had a chance to study President Reagan's recommendations on the complex? What are your initial reactions or observations?

Answer: I am reviewing the recommendations of the President's reports. At this time, I cannot fault the major recommendations but have a few questions of my own on some of the details.

My focus will be on what must take place within the next five years to set this entire effort on the proper course to achieve modernization and cleanup within appropriate schedules and budgets.

QUESTIONS FROM SENATOR WIRTH

2010 Modernization Plan

Question 40(b):	How do you intend to employ the modernization plan?
Answer:	I intend to use the report in preparing an implementation strategy that will address not only the modernization actions but also set forth the strategy for prioritization of cleanup activities when characterization efforts are completed. As you are aware, the FY 1990 budget request includes funds for facility modernization such as two new production reactors, a special isotope separation plant, upgrade of Building 371 at Rocky Flats, revitalization of Research Development and Testing, materials production, weapon production activities, and other general plant projects and capital equipment requirements.

QUESTIONS FROM SENATOR WIRTH

2010 Modernization Plan

Question 40(c): Are there any specific recommendations with which you would disagree?

Answer: Not at this time; however, my review is not complete.

QUESTIONS FROM SENATOR WIRTH

2010 Modernization Plan

Question 40(d): What kind of feedback on the 2010 plan have you received thus far from the new Administration? Do you expect President Bush to support the recommendations?

Answer: I have had favorable feedback on the plan from the Administration. The President has asked me to review the plan and provide my best judgment prior to his endorsement; however, there is no question that he agrees the weapons complex must be modernized and that environmental cleanup must be addressed.

QUESTIONS FROM SENATOR WIRTH

2010 Modernization Plan

Question 40(e):	The modernization plan recommends that DOE begin phasing out Rocky Flats in 1995, but is vague about when the last of the plant's operations would be shut down. What can you tell us about the proposed timeline?
Answer:	The Rocky Flats Plant (RFP) relocation schedule reflects the need for an orderly transfer of functions to a new location. Necessary steps include development of an Environmental Impact Statement (EIS), site selection, technology development, design, construction, testing, and a period of operation for qualification and certification of the new facility to assure the reliability of meeting schedules and product quality. The development of an EIS and site selection may require up to 3 years. Some activities such as technology development and preliminary designs can be carried on in parallel to some extent. Construction may require up to 8 years, followed by up to 2 years of testing. The transition period (qualifications and certifications) may require up to 4 years. With consideration of some contingency in the estimates the schedule could extend to a total of between 15 and 20 years. Most of the major activities are sequential in nature. However, as technology and designs are developed, there may be opportunities to accelerate the time required for the RFP relocation.

QUESTIONS FROM SENATOR WIRTH

Funding Modernization and Cleanup

Question 41(a): The 2010 plan estimates modernization and cleanup of the DOE nuclear weapons facilities will cost $81 billion over the next 20 years. However, the GAO, in a July 1988 report, estimates the costs closer to more than $155 billion over 30 years. While I realize the difficulty in developing "budget quality" numbers covering such an expansive time frame, how do you explain the vast discrepancy in these two estimates?

Where will this dramatically increased funding come from? How will DOE ensure that environmental cleanup funding will compete on equal footing with modernization funds?

Answer: As I mentioned in my answer to a similar question from Senator Johnston, I do not feel comfortable with these cost estimates, and I don't think we will be able to make accurate estimates until we begin the job of characterizing and prioritizing these sites.

Many of these sites are different; we will need to put them into specific priorities. Those that pose an immediate concern to environment, safety, or health will have to be addressed immediately.

We have seen all those figures, but perhaps when we have a clearer picture of what must be done at each site and establish an appropriate schedule to accommodate that action, the figures may not be quite so startling over a five-year period.

QUESTIONS FROM SENATOR WIRTH

Funding Modernization and Cleanup

Question 41(b): Commendably, President Bush two weeks ago announced he will be requesting an increase in funding twice that which President Reagan earmarked for environmental cleanup of DOE nuclear weapons sites -- for a total increase of $600 million. In general terms, how will that increase be spent?

Answer: The amended budget provides an additional $360 million including an increase of approximately $240 million for environmental cleanup and waste management, and the remainder for safety activities. This provides funding for cleanup while we are in the characterization stage. Increases may have to be requested in future year budgets depending on our planned site-by-site characterization and prioritization efforts.

QUESTIONS FROM SENATOR WIRTH

Funding Modernization and Cleanup

Question 41(c): Even with that increase for FY 90, the President proposes only minor increases of 3.5 percent a year in the outyears. At the rate of spending shown in the Bush budget, we will have spent only $12 billion in the next 21 years. Based on DOE's own projected needs, aren't those outyear numbers unrealistically low?

Answer: The increase in funds for FY 1990 will allow the Department to proceed with modernization and cleanup characterization. The increase needed in the outyears will better be viewed in the presentation of the FY 1991-1992 budget after the Administration and Congress have had some time to analyze and reach agreement on many of the recommendations of the report.

QUESTIONS FROM SENATOR WIRTH

Global Warming

Question 42: During last year's campaign, President Bush made the following statement on the shores of Lake Michigan, "Some say the problem is just too big to be solved. That the world is growing too much and too fast. I say they are wrong. Those who think we're powerless to do anything about the 'greenhouse effect' are forgetting about the White House effect. As President, I intend to do something about it." He went on to say that some of the strategies we ought to be considering to reduce the generation of greenhouse gases are energy conservation and safe nuclear power.

And just three weeks ago, the Secretary of State, James Baker, issued a statement heard around the world. Secretary Baker said, "We cannot afford to wait until all of the scientific uncertainties have been resolved before we act." He went on to say that we should focus immediately on steps such as energy efficiency and reforestation.

I would like to know, Admiral, if you share those views, and how the Department of Energy, under your stewardship, is going to contribute to that "White House effect" the President spoke of last fall?

Answer: The Department of Energy must be one of the lead agencies in reducing the remaining scientific uncertainties in this area. At the same time, we should pursue mitigating actions that can be justified on their own merits, such as the development of more efficient combustion technologies and alternative energy sources.

QUESTIONS FROM SENATOR WIRTH

Greenhouse Gas Emissions Policy

Question 43: I would like to know whether the Department of Energy will develop policy recommendations for reducing greenhouse gas emissions? When will we see them? Has President Bush given you any direction in this area?

Answer: DOE is conducting four Congressionally-mandated studies on climate change policy issues. Those studies will evaluate the effectiveness and cost of a variety of policy options including changing the direction of our R&D programs and various fiscal, regulatory, demonstrational, and informational incentives. They will be the basis for determining future policy directions and future program orientations. The studies will be provided to Congress, as completed, throughout 1989.

President Bush's position on climate change was reflected by the statement of Secretary of State Baker before the Response Strategies Working Group of the Intergovernmental Panel on Climate Change.

QUESTIONS FROM SENATOR WIRTH

Global Warming

Question 44: Would you agree that the greenhouse effect must become a matter of centrality for all DOE energy planning, budgeting and policy making?

Answer: I consider the threat of greenhouse gas-induced global climate change a very serious matter. The DOE will continue its role in helping resolve the scientific uncertainties and encourage the actions which can help alleviate any threat and which are already justified on other grounds. These include energy efficiency, non-fossil supply technologies, such as renewable and nuclear energy, and addressing the energy needs of developing countries.

QUESTIONS FROM SENATOR WIRTH

Global Warming

Question 45: It is my understanding that the Department of Energy disagreed with others in the new Administration as to whether action is warranted to prevent global warming. I hope that you will impress upon those leading the DOE effort that a new Administration is in office, that President Bush and Secretary Baker have pledged to get to work on this issue immediately.

Answer: Based on briefings I have received and my personal observations, I do not perceive any difference between DOE and the Administration on the global climate issue. The position set forth by Secretary of State Baker, the keynote speaker at a recent meeting of the U.S.-chaired Response Strategies Working Group of the Intergovernmental Panel on Climate Change, was fully in accord with the advice I had already received in the Department of Energy.

QUESTIONS FROM SENATOR WIRTH

Energy Efficiency

Question 46: Do you believe that CAFE standards should be rolled back at a time when petroleum imports are running at 45 percent of petroleum demand; when, for the first time in more than a decade, oil imports surpassed domestic production in January and when we are trying to reduce the generation of carbon dioxide and other chemicals that are fouling the atmosphere?

Answer: The responsibility for setting CAFE standards rests with the Secretary of Transportation. The Department of Energy's responsibility is to review the technical feasibility of the standards, and in September the Department commented that a standard of 27.5 MPG is technically attainable. CAFE standards send a signal to the Nation that we are serious about conservation.

QUESTIONS FROM SENATOR WIRTH

Energy Efficiency

Question 47: I am Chairman of the Alliance to Save Energy. The Alliance recently completed a private sector survey on Federal research and development programs, which found that many energy efficiency technologies are sitting on the shelf because the Federal government cuts off its support for development at the wrong phase in the process. Almost all of the 60 companies surveyed said that some type of Federal support is needed to help industry demonstrate the commercial viability of these products. For the past eight years it has been the Administration's position that R&D programs should not go beyond the "proof of concept" stage. What is your position on this matter? (I will be glad to share with you and the rest of this committee the responses the Alliance received).

Answer: DOE strategy involves industry in the development of new technologies at a very early stage. It encourages cost sharing by the industrial partner and continues DOE participation up to and including proof of concept. At this point, industry is expected to commercialize the product.

In general, commercialization activities such as large scale demonstration programs are most appropriately undertaken by the private sector, which is in the best position to assess the marketability of new technologies. Industry's willingness to invest in a new technology is frequently the best indicator of its near term market potential. In addition, demonstration programs frequently require a disproportionate share of a very limited Federal budget, which could be better used to conduct

Answer 47 continued: higher risk research and technology development that might not otherwise be performed by industry.

I will certainly review with interest the Alliance's recently completed private sector survey of Federal research and development programs.

QUESTIONS FROM SENATOR WIRTH

Federal Energy Management Program

Question 48: Obviously, in the current budget climate, we have to find ways to do more with less. One idea that I believe has great potential for reducing the Federal Government's energy bill is shared savings contracts. Under these arrangements, private contrators will recommend and install energy efficiency measures at no initial cost to the Federal Government. Instead, the contractors are paid out of the savings that result from reduced energy bills.

The Department of Energy has responsibility for the Federal Energy Management Program, and I am concerned by the fact that the Federal Government has not acted more aggressively in pursuing shared savings contracts. Only several of these contracts have been developed during the past three years. Your leadership would be critical to accelerating these efforts. I would like to know if you could report back to the committee as to whether you can commit the DOE to implement shared savings programs in at least three of its facilities within one year from today?

Answer: I agree that it is important that the Department demonstrate leadership in this area. The Department has been actively pursuing "Shared Savings" contracting at two of its sites during the last year. The first pilot test is at Lawrence Berkeley Laboratory, which already has issued a Request for Qualifications and has received interest from approximately six firms. Qualified firms will be selected in mid-March. These firms then will submit both technical and cost proposals for evaluation.

A second pilot test of shared energy savings was initiated in FY 1988 at Oak Ridge Associated Universities. Detailed evaluation of the sites subsequently has established that the project was not a good candidate.

Answer 48
continued: The Department will identify additional candidates for the study in the coming year and anticipates that two of these projects will prove to be viable.

QUESTIONS FROM SENATOR WIRTH

Photovoltaics

Question 49: Until your name was submitted for this nomination, you served on the Board of the Philadelphia Electric Company. It is my understanding that Philadelphia Electric is one of the front-runners in the U.S. in considering additions of photovoltaic electric supply to their utility grid. I am a big supporter of photovoltaics -- it is clean and rapidly becoming cost competitive. Do you believe that we should be stepping up our research, development and demonstration programs to allow utilities like Philadelphia Electric to more widely adopt photovoltaics? If so, could you provide the committee with some specific recommendations?

Answer: Photovoltaics and other renewable energy sources hold significant promise for contributing to future utility power needs. DOE programs concentrate on the research needed to advance the performance and economics of photovoltaic systems such that they can be viable as a utility power source. The research program of the Department recognizes and builds upon the broadening base of utility systems' experience with photovoltaic power capacity. There are already some 40 utilities operating 70 photovoltaic systems.

I am pleased by the increasing interest shown in photovoltaics by Philadelphia Electric and other utilities and believe that we should continue to pursue a closer mutual understanding of all alternate technologies to encourage their future use.

QUESTIONS FROM SENATOR WIRTH

Renewable Energy Development

Question 50: As you can imagine, my State has been hit hard by low oil prices in recent years. But it might surprise you to know that the Solar Energy Research Institute also has been hit hard. SERI has had to undertake dramatic staff reductions as budgets for renewable energy r&d have been slashed. It seems to me that this is exactly the opposite direction we ought to be headed in. Investments in renewable technologies are precisely what we ought to be doing when oil imports are rising, energy prices are low and environmental concerns are escalating.

One of the highest priorities out at SERI is to obtain funding for its own research facility. The current facility is leased, it was never intended to be a laboratory and it is completely inadequate for SERI's critical research. SERI needs $4 million to get this project going. Every independent analysis has shown that constructing this building will save the Federal Government money. I hope that you, too, will make this a priority in this year's budget process. I would appreciate it if you would get back to me, and the committee, on this matter to let us know if you will recommend funding for this project in the Fiscal Year 1990 budget process.

Answer: Construction funding for the research facility is not currently included in the FY 1990 budget request. I have indicated my desire to review the Department's energy programs, including Renewable Energy. My review will include an evaluation of the facilities and equipment needed to maintain research excellence. The outcome of this review will be reflected in the 1991 budget request. I do desire, however, to work with Congress to develop a mutually supportable appropriation for the current budget year.

QUESTIONS FROM SENATOR WIRTH

Waste Isolation Pilot Plant

Question 51: In the next several months, the Department of Energy, this committee and the appropriate committees in the House are going to have to take decisive steps to avert a crisis in the storage of transuranic waste. Governor Andrus of Idaho has blocked further shipments of TRU waste from Rocky Flats to INEL until he is convinced that progress is being made to open the Waste Isolation Pilot Plant. If this situation persists, you're going to have a big problem out at Rocky Flats when its storage capacity is reached.

What is the Department doing to prevent this situation from happening? Has the Department submitted any interim storage options to the States? Why not?

Answer: The Department is exploring three alternatives to further storage of Rocky Flats transuranic (TRU) waste in Idaho. None of the current alternatives to the Idaho National Engineering Laboratory (INEL) has comparable facilities to receive, examine, certify, and store waste, but some sites have experience with their own, smaller volumes of TRU waste.

One alternative is storage at other Department of Energy sites. The Department hopes to have a study of this alternative completed by April.

A second alternative is temporary storage at Department of Defense (DoD) installations. This would have to be a very short-term expedient, as these installations have no facilities or trained personnel for waste-handling operations. The Department has met with DoD officials and has continued to provide them with information they need to determine if suitable conditions prevail at any of their installations in the region.

Answer 51 continued:

The Department has published a Commerce Business Daily notice to announce plans for a third alternative, a private sector interim storage facility for WIPP-bound waste. A meeting for interested firms was held February 15, 1989, to discuss the scope of the contract and to distribute a questionnaire concerning capabilities to carry out the proposed scope. The questionnaires will be returned to DOE in March 1989, after which a decision will be made on whether to go forth with a Request for Proposal or to consider other storage alternatives. This would be a facility licensed by the Nuclear Regulatory Commission. If this alternative were chosen, it would not become available for several years.

These alternatives have been discussed with the Governors of Idaho, Colorado, and New Mexico, or their representatives, at several recent meetings. In addition, the Department will discuss any realistic alternatives that emerge from these efforts with the affected States.

On February 23, Governor Andrus lifted restrictions and allowed a limited amount of waste to be transported from Rocky Flats to INEL.

QUESTIONS FROM SENATOR WIRTH

Waste Isolation Pilot Plant

Question 52:	Let me ask you a loaded question. Do you believe that a company that is regulated when it carries gasoline should be subject to similar regulation when it ships radioactive waste? Of course it should. But the Department of Energy is making exactly the opposite argument against my state. DOE does not believe that its contractor for WIPP shipments, Dawn Trucking, should be subject to Colorado's Nuclear Waste Transportation law. Colorado regulates Dawn Trucking when it ships gasoline in our state, but the DOE has argued that it should not be allowed to do so with transuranic waste shipments. That is about as illogical an idea as I've heard in a long time. I would like to ask you to review this situation and to clarify the Department's position for me, and I hope that we can work together on this matter.
Answer:	The Department of Energy is responsible by law for assuring the safe, secure, and economical transport of all its goods and materials. DOE takes this charge very seriously. When it comes to radioactive materials, transport safety is paramount. DOE and the Department of Transportation (DOT) sincerely believe the public health and safety are best protected by a uniform and strong set of Federal regulations. Proceedings at DOT and in the courts have consistently confirmed that the regulatory authority for hazardous materials, including radioactive materials, is primarily a Federal one. This regulatory scheme has resulted in an exemplary safety record for many years. A plethora of varying State and local regulations would make the process difficult at best and impossible, at worst.

Answer 52 continued:

Concerning the Colorado Nuclear Materials Transportation Act (CNMTA), DOE believes that it is inconsistent with the existing and effective Federal law and regulations. DOE has asked the DOT for an administrative ruling on this apparent inconsistency. It is noteworthy that the ruling is not binding and there is provision for public participation. There is also an appeal process built in. The State of Colorado has declined to participate in the DOT's administrative proceeding. Rather, they have sought judicial review of the applicability of the CNMTA in the Federal court.

QUESTIONS FROM SENATOR BINGAMAN

Energy Security/Imports

Question 53:	The American Petroleum Institute has just reported that imports of crude oil and petroleum products in January were 20.6 percent higher than in the same month a year ago. With the trends showing us that the U.S. is likely to be more than 50 percent dependent on imports by the early 1990's, what actions or policies will you pursue to reduce that dependence and vulnerability?
Answer:	It is evident that a sensible mix of all of our energy resources will be needed in the coming years to meet the Nation's energy needs. A strong, viable domestic petroleum industry is an essential element and the President has stated his firm commitment to strengthening the domestic oil and gas industry. With this goal in mind, he has suggested several measures in his recent budget proposal to Congress designed both to maintain our existing production and to encourage new exploration and development. These include: new tax credits for oil and gas producers; the opening of the Coastal Plain of the Arctic National Wildlife Refuge and other promising areas for environmentally sound exploration and development; and deregulation of natural gas wellhead prices. A balanced energy policy must also include increased energy efficiency and conservation; research and development in oil and gas recovery and geosciences and renewable energy resources; revival of the nuclear power option; and efforts to encourage the development of new technologies that will increase our national energy options, such as superconductivity and alternative fuels for transportation.

QUESTIONS FROM SENATOR BINGAMAN

Stabilization of Crude Oil Price

Question 54: **I met with representatives of the oil and gas industry in New Mexico last week and there was unanimous agreement that the major issue facing them is the price of crude oil. Don't you agree that a stable price would help to enhance exploration and development by the industry? Will you support actions to stabilize the price of crude oil and help maintain a viable domestic industry?**

Answer: I agree that a stable price could help to enhance domestic oil exploration and development. I believe the best way to maintain a viable domestic oil industry, however, is to implement the variety of oil-related programs put forth in the President's budget.

QUESTIONS FROM SENATOR BINGAMAN

Loss of Oil Industry Infrastructure

Question 55: I am particularly concerned with the loss of our infrastructure in the domestic oil and gas industry -- an infrastructure that is not easily replaced. This infrastructure includes the specialized skills of rig workers, petroleum engineers and geologists and the oil well servicing firms that keep the rigs pumping. We continue to lose our skilled workforce and the contractors and businesses that employ them. Can you please provide the committee any recommendations you have regarding what can be done to combat this loss of talent and expertise which cannot easily be replaced?

Answer: The most effective means for restoring and maintaining the oil industry's infrastructure is to take the actions necessary to encourage an increase in domestic oil and gas exploration and development activities. To this end, President Bush has proposed new tax incentives for oil and gas producers and the exploration and development of promising Federal lands, subject to prudent environmental safeguards.

QUESTIONS FROM SENATOR BINGAMAN

Natural Gas Policy

Question 56: **I have introduced legislation that would create a new position at the Deparment of Energy for an Assistant Secretary for Natural Gas. I understand that you are not prepared to discuss how you might reorganize the Department. However, I want to emphasize how natural gas can play a critical role in our energy future. The country faces a looming shortfall in electric generation capacity, increasing dependence on imported oil, and likely new emission controls on existing utility and industrial emissions. Natural gas can be at least part of the solution to all these challenges. Do you agree that the Department must place an increased emphasis on natural gas?**

Answer: I agree that natural gas has a promising role in our energy future. It is clean-burning, abundant and secure within our borders. Gas can help reduce our dependence on foreign oil and meet our environmental goals. As we move toward an increasingly competitive energy market, consumers are recognizing the value of natural gas and we should expect to see more efficient use of natural gas. DOE is continuing to develop technologies which make greater use of natural gas resources as well as developing technology to increase supplies.

QUESTIONS FROM SENATOR BINGAMAN

Los Alamos and Sandia Remedial Actions

Question 57: The Department of Energy recently released its list of environmental threats within the DOE's weapon production complex. Sandia and Los Alamos National Laboratories were ranked among the most serious sites among the 155 sites nationwide. What action is the DOE taking at Sandia and Los Alamos with respect to these environmental threats? Will DOE seek the active involvement of local officials and neighborhood leaders in developing your cleanup plans?

Answer: The cleanup requirements at Los Alamos National Laboratory (LANL) result from its use for over 40 years as a nuclear weapons development laboratory. These requirements involve the remediation of sites with soil contaminated by radionuclides, chemicals, and other hazardous substances. In FY 1990, DOE plans to spend $7.5M for environmental restoration at LANL. These funds will provide for closure of active waste sites and remedial investigations/feasibility studies, and remediation at inactive waste sites. State, local leaders, and citizens will be involved through a community relations plan for assessment and remediation of environmental contamination.

The cleanup requirements at Sandia National Laboratory (SNL) result from its use as a research and development laboratory for the design and testing of nonnuclear components for nuclear weapons. These requirements involve a variety of

Answer 57:
continued: contaminants including radionuclides, volatile organics, and other hazardous substances. During FY 1990, DOE plans to spend $3.6M at SNL for environmental restoration activities. The funds will be used for closure of active waste sites and remedial investigations, feasibility studies, and remediation at inactive waste sites. State, local leaders, and citizens will also be involved in the development of assessment/characterization reports and of cleanup plans for inactive waste sites.

QUESTIONS FROM SENATOR BINGAMAN

Liquid Fuel Supply

Question 58: Because our entire national infrastructure is based upon a transportation system which is totally dependent upon petroleum, any interruption in our total supply of petroleum could severely impact our economy, our lifestyle, and our nation's security. What are your plans to promote a more aggressive R&D program to improve liquid fuel supply -- for example, to explore technologies for improved oil recovery, conversion of natural gas to liquids and liquefaction of coal?

Answer: I intend to pursue an aggressive effort to enhance oil recovery, including both heavy and light oil resources, and emphasizing geoscientific characterization of reservoirs. This latter point is particularly important because it can help marginal well operators in the near term. The Department is currently developing a geoscience research strategy, responding to the recommendations of the Energy Research Advisory Board. I also want to see the continued development of longer-range, advanced processes to increase the efficiency of oil recovery. This can have a sustained long-term value.

Integral to these efforts will be our plans to expand technology transfer programs for oil and gas. The Industry/National Laboratory Partnership Program with Sandia and Los Alamos National Laboratories, along with a series of oil and gas workshops through the Interstate Oil Compact Commission--all aimed at improving oil recovery, are important first steps, and I hope that we can expand our activities in this area.

Answer 58 continued: With regard to the conversion of natural gas to liquids, advanced concepts are being pursued in the Office of Fossil Energy that potentially are improvements over the commercially available technologies such as steam reforming and methanol synthesis and the Mobil process for converting methanol to gasoline. These research efforts are still in the laboratory stage of development.

In our planning for a future in which increasing amounts of liquids could be made from coal, it is important to recognize that tremendous progress has been made over the last few years in the areas of direct and indirect liquefaction. Today's technology for producing transportation fuels directly from coal, using the two-stage catalytic approach being tested at the Wilsonville, Alabama, pilot plant, is projected to produce distillate fuels at a cost in the $30 to $35 per barrel of oil equivalent range. In the area of indirect liquefaction, research and development efforts are under way to develop processes to produce methanol, other mixed alcohols, and Fischer-Tropsch liquids (primarily diesel fuel) from coal. The result of these continuing research and development activities to produce liquids from coal would be a technology base for industry to go forward to commercialization when the technologies become competitive with oil.

QUESTIONS FROM SENATOR BINGAMAN

Global Climate Changes

Question 59: In the light of concerns over global climate change which may be caused by the generation and accumulation of "greenhouse gases" such as carbon dioxide, methane, etc., in the atmosphere, what are your plans to improve the funding for research and development in renewable energy technologies and advanced nuclear technology?

Answer: Although the science of global warming needs to be improved, we should not wait until all of the uncertainties have been resolved before we act. Scientific research on the cause and effects of climatic change attributable to energy production and use should continue. Advanced nuclear technology, renewable energy, energy efficiency, and clean coal technology all offer the potential to economically exploit domestically available energy resources and industrial talent to the benefit of both the national energy economy and the environment. Some of these technologies are available now and should be used while research and development of each of these options must and will be continued. As Secretary of Energy, I intend to develop a cogent national energy policy and program which best mobilizes public and private resources in pursuit of these objectives.

QUESTIONS FROM SENATOR BINGAMAN

Congressional Assistance to Attract and Retain Staff

Question 60: I know of your concern regarding the personnel needed to achieve the cleanup of the nuclear weapons complex. Are there actions we can take to help you attract and retain the people you need?

Answer: I believe you will be looking into the question of the adequacy of the Government's overall compensation system during this Session of the Congress. It is terribly important that you take appropriate action to restore the Federal Government's ability to compete satisfactorily in the marketplace for the professional, technical, and support skills that we need to be effective. This is particularly true with regard to scientists and engineers, but is generally true for the workforce as a whole. Our scientists and engineers cannot be effective if they are not supported adequately by high caliber staff.

QUESTIONS FROM SENATOR BINGAMAN

Technology Transfer

Question 61:	I think our national laboratories are an important but underutilized resource for enhancing our nation's competitiveness. The laboratories are not as involved with the private sector as they should be. How are you going to go about increasing the laboratories' involvement with the private sector?
Answer:	DOE needs to make the private sector better aware of the opportunities to be involved with its National Laboratories, and to make those private sector-laboratory interactions as easy as possible. The Department recently issued a report, Technology '88, designed to promote technology transfer interactions between the laboratories and the private sector. In addition, the Department recently hosted a policy forum on technology transfer with 70 CEOs from American industry to promote industry-laboratory collaborations and to identify obstacles to such collaborations. Part of the follow-up to the forum will be to develop simplified processes for the collaborations and to hold further meetings with the private sector to promote additional collaborations. Most important, the Department has underway a 2-year pilot technology transfer project to streamline industry-laboratory collaborations: the High Temperature Superconductivity Pilot Centers at Argonne National Laboratory, Los Alamos National Laboratory, and Oak

Answer 61
continued:

Ridge National Laboratory. Following the Department's evaluation of the pilot project, it will implement broad application of simplified processes and consider broadening the center concept to other laboratories. The Department also has initiated a major effort to transfer unclassified, defense-related technology developed by several national laboratories to the oil and gas industry. This technology could be extremely useful in locating and recovering oil and gas supplies. Similar efforts are being examined for national laboratory developed technology that could be of use by the coal industry.

QUESTIONS FROM SENATOR BINGAMAN

DOE Laboratory Involvement in Arms Control Verification Research

Question 62:	I know you have reviewed the 2010 Report on the nuclear production complex. One of the recommendations is that the DOE labs become more involved in verification research. That recommendation was not included in the Reagan budget request. Will you support the 2010 Report recommendation?
Answer:	At the time of the budget preparation, it was premature to formulate specific recommendations for the new agenda of the Bush Administration. I am committed, however, to maintenance of a strong arms control analysis and verification technology research and development program within the Department. This will facilitate our responsiveness on the linkage between arms control initiatives and DOE responsibilities for maintenance of the U.S. nuclear deterrent. It also will enable DOE national laboratories to make timely and quality contributions to the wide array of treaty monitoring and verification technology arrangements. You can be assured that the Department will direct its unique resources to help insure that all nuclear arms control treaties are effectively verifiable in their implementation.

QUESTIONS FROM SENATOR BINGAMAN

Expanded Role for Weapons Laboratories

Question 63:	For several years the Congress has been pushing for a larger role for our national labs in conventional weapons research. Unfortunately, the Administration has cut back funding for this initiative. Do you support this expanded role for the national labs?
Answer:	DOE has been trying to apply the capabilities of our weapons laboratories in such nonnuclear areas as defense material sciences, advanced conventional munitions, and armor/anti-armor. Work also has been done in advanced nonnuclear weapons research and development, such as the neutral particle beam and the free electron laser for the Strategic Defense Initiative Organization. Much of this work is complementary and synergistic with the laboratories' primary mission, but the laboratories' primary mission is to support the country's nuclear deterrent. Right now, DOE weapons laboratories' defense-related work-for-others is approximately 20 to 25 percent of total expenditures. I would consider these national laboratories taking on additional, long-term, complex, nonnuclear defense research, development, and testing projects which could advance defense science and which would be recognized as having significant importance to national security. In 1985, the President's Blue Ribbon Task Group supported this approach.

QUESTIONS FROM SENATOR BINGAMAN

Grant Proposals

Question 64: Could you please provide me information on the grant proposal by RhoMed, Inc. for a Radiolabeled Antibody for Abscess Imaging? I understand the RhoMed proposal has been reviewed by a scientific peer panel and approved on January 26th. I further understand that there is funding available for this type of proposal. What is the status of this grant proposal?

Answer: The RhoMed proposal has been reviewed and rated highly by outside peer reviewers. It is among many proposals currently under consideration for FY 1989 funding. Since funds are limited, awards should not be made until all proposals have been through the review process and prioritized. The RhoMed proposal is being held pending final decisions on allocation of the remaining funds.

QUESTIONS FROM SENATOR FORD

Departmental Organization

Question 65: Electricity issues will be some of the most important energy issues facing the Nation over the next eight years. Over the past eight years, Federal leadership on electric matters has, by default, devolved primarily to regulatory agencies. The FERC, EPA and SEC now effectively set Administration policy on electric matters through case-by-case rulings and interpretations.

Do you intend to restructure the Department to ensure that DOE is able to develop clear policies and recommendations in order to guide Administration policy in the electric utility area or will you continue to defer such issues to regulatory agencies?

Answer: It is my expectation that the Department will play a lead role in formulating national energy policy with regard to programs and functions it has been assigned by the DOE Organization Act and subsequent legislation. To the extent realignment of functions within the Department appears necessary to carry out elements of national energy policy, I am prepared to make changes.

QUESTIONS FROM SENATOR FORD

Departmental Organization

Question 66: **Admiral Watkins, under the Department of Energy Organization Act, the Department has eight Assistant Secretaries. At this time, do you envision any reorganization of the responsibility of these Assistant Secretaries in order to better address important energy issues, including those facing the electric utility industry?**

Answer: I have not made any decisions with respect to the responsibilities of Assistant Secretaries. I do intend, however, to act quickly to enhance line management of some of the high priority programs and complex issues which must be dealt with immediately in order to accomplish the Department's mission. Over the coming months, I intend to evaluate the present structure and management control systems and, as a management team for the Department is being put together, to make appropriate changes.

QUESTIONS FROM SENATOR FORD

Electricity Policy

Question 67:	It has now been almost two decades since the Federal Government has conducted a comprehensive review of the electric utility industry. Do you believe that the Administration should support new comprehensive utility deregulation initiatives before such a review has been completed?
Answer:	I intend to supervise the immediate development of a sound national energy policy coupled to an integrated strategy to carry out that policy. Electricity issues will necessarily play a major role in that policy review. I do not anticipate that comprehensive legislation deregulating the electric utility industry will be advanced by the Administration prior to the completion of that review. However, other legislative proposals will have to be evaluated on a case-by-case basis in the interim.

QUESTIONS FROM SENATOR FORD

Clean Coal Technology/Acid Rain

Question 68: President Bush made a promise to reduce the emission of precursor pollutants to acid rain, specifically oxides of sulfur. In his State of the Union, the President stated that he would be submitting legislation to reduce emissions of SO_2 by a date certain.

- When will you send this legislation to the Hill?
- Will you propose a regulatory approach to controlling emissions or some other method?
- Will the legislation be consistent with the goal of bringing new clean coal technologies into the commercial market?

Answer: It would be premature to predict the details or timing of any acid rain legislation that might be proposed by the Administration. The President has indicated his strong support for the demonstration and commercial deployment of clean coal technologies. I will work to ensure that the legislative package is consistent with that principle.

QUESTIONS FROM SENATOR FORD

Uranium Enrichment

Question 69: Please provide the Committee with a listing of all transactions involving Soviet uranium and uranium enrichment services and U.S. utilities that the DOE is aware of for 1986, 1987, 1988, and any estimate the Department might have of future sales. Please include whether a broker and/or flag-swapping is believed to be involved. In describing the transactions, please specify the magnitude and the value of both the uranium and the uranium enrichment components of the sale.

Answer: In responding to your question, please be aware that the material we can provide is based upon proprietary and Government confidential commercial information, and should be treated accordingly. The Department would be pleased to provide the details of these transactions directly to the Committee, subject to the appropriate safeguards.

DOE believes that transactions involving Soviet uranium valued at $140 million and Soviet enrichment services valued at over $170 million took place during the 1986-1988 period. Sales losses for U.S. uranium and enrichment services are estimated at $70 million and $90 million respectively for 1989. DOE estimates that as much as $800 million in U.S. uranium sales and $1.7 billion in sales of U.S. enrichment services, over the 1990-1998 period, could potentially be displaced by the Soviet Union or other foreign producers.

Answer 69 continued:

Approximately 50 percent of the 1986-1988 transactions were conducted through brokerage firms and involved flag-swapping. I understand that the majority of future transactions will be conducted in this manner.

QUESTIONS FROM SENATOR FORD

Uranium Enrichment

Question 70:	The Reagan Administration, in the FY 1990 budget, stated that they would be sending proposed legislation to the Congress that would restructure the enrichment corporation as a Government corporation. They did not send that legislation to us before the end of their term. Will the Bush Administration be sending that legislation to the Congress? If so, when?
Answer:	In his revised budget, President Bush affirmed his support for restructuring DOE's uranium enrichment enterprise. The Department fully intends to submit a legislative proposal to Congress. I am ready to work closely with Congress to bring this important initiative to fruition.

QUESTIONS FROM SENATOR FORD

Uranium Enrichment

Question 71: The Senate has recognized the need for restructuring the enrichment enterprise as a Government corporation. We voted twice in the 100th Congress for legislation to establish the United States Enrichment Corporation. That bill did not become law due to the inaction of the House. The Senate passed and Reagan Administration supported legislation establishing the initial debt of the enrichment program at $364 million. This was based upon a cash flow analysis of appropriations and revenues, including interest, since the programs' inception. However, some in the House have argued that the Government could tax the enrichment customers, at least those that would remain, to bring more revenues to the Government. What is your position on the debt of the enterprise? What is your position on the unrecovered investment, primarily in the form of assets, of the enterprise?

Answer: The Administration believes that a properly structured Government corporation will provide the maximum financial return to the Government. The Administration will be proposing legislation that will cover issues such as the debt of the enrichment enterprise, the Government's unrecovered investment, and methods for handling these items. Although I have not delved into the details of what the debt and unrecovered investment are, I am aware there have been disputes as to the precise numbers. I assure you this will be addressed fully in the legislation that will be forwarded to the Congress.

QUESTIONS FROM SENATOR FORD

Uranium Enrichment

Question 72: One factor key to the success of the enrichment program in the future is the integrated demonstration of the advanced laser enrichment technology. It must be demonstrated and moved from the laboratory into production. Is your Administration committed to the demonstration and ultimate deployment of this enrichment technology. If so:

- By when will you demonstrate? By when do you anticipate deployment?
- How much funding do you anticipate requiring to complete a prototype demonstration? When will you ask for this funding?
- Will the Bush Administration seek outside guidance on the deployment of the technology? If so, through what forum?

Answer: DOE is fully committed to completing a technology demonstration program of the advanced laser enrichment process called AVLIS (for advanced vapor laser isotope separation). If demonstration validates the technical and economic value of AVLIS, the Department would support deployment.

DOE has a program in place to provide a demonstration of the AVLIS technology by the end of CY 1991. Deployment potentially could take place as early as 1996 or 1997, with the expectation that this timing will vary according to

Answer 72 continued:

market conditions and economic parameters necessary to support the endeavor, as well as the decision of a Government corporation if formed by then.

DOE projects that about $500 million in funding will be necessary from 1989 to 1991 to complete the technology demonstration program. Congress already has appropriated $127 million in FY 1989 for this purpose and the Department's FY 1990 budget request for $148 million is the second step in this 3-year effort to complete demonstration. The remaining funds necessary for program completion would be required in FY 1991.

I strongly support the integration of industrial experience in our AVLIS program in order to ensure most effectively that the eventual transition of this technology from the laboratory to the marketplace is appropriate, timely, and successful. The Department plans to utilize industrial resources for the purpose of obtaining the necessary expertise to accomplish this objective. DOE also plans to seek the advice of outside technical and business experts to provide an independent assessment of the AVLIS program in those areas that must be addressed in order to successfully commercialize the AVLIS technology.

QUESTIONS FROM SENATOR ROCKEFELLER

Clean Coal Technology

Question 73: An electric generation shortfall is projected in our country by the late 1990's. In this vein, it is imperative to move forward aggressively with the Innovative Clean Coal Technology (ICCT) Program. What needs to be done to ensure that the program results in enough technological options for utilities by the late 1990's?

Answer: The original objectives of the Clean Coal Technology Program were established after considering the recommendations of the Joint Envoys' Report, environmental goals in acid rain mitigation, and the projected supply and demand issues of the utility industry. These objectives, which include making available a wide range of Clean Coal utilization options for the utility industry by the late 1990s, can be accomplished by continuing the program at the planned funding level and schedule. The President's revised budget for FY 1990 restores the program to that schedule and will ensure that the needed options are available.

QUESTIONS FROM SENATOR ROCKEFELLER

Clean Coal Technology

Question 74: **When the Reagan Administration committed to a $2.5 billion ICCT Program, three objectives were enunciated: expand technological options, obtain technical and operational know-how, and improve U.S. competitiveness in coal utilization and control devices. Should these objectives be expanded to focus on steps to facilitate and encourage widespread utilization and development of the technologies being developed?**

Answer: The objective that you recommend is an inherent element of the Clean Coal Technology Program. By obtaining the technical and operational know-how and broadly disseminating this information, limited early deployment will result. In addition, as President Bush announced in his February 9, 1989, speech to Congress, this Administration supports incentives that could accelerate the early deployment of these technologies once demonstrated. In fact, the Secretary of Energy's two coal advisory groups, the National Coal Council and the Innovative Control Technology Advisory Panel, have recently prepared reports identifying a large number of incentives that could be provided to accelerate the deployment of CCT's. These reports are currently under review.

QUESTIONS FROM SENATOR ROCKEFELLER

National Coal Council Study

Question 75: In December 1987, the National Coal Council began working on a study to analyze the need for actions to facilitate the deployment of ICCT to achieve the goals of the program. The final report was recently submitted to Secretary Herrington. Please provide your thoughts on the report for the record, including specific responses on the recommendations.

Answer: I understand that the Department is currently assessing the recommendations from the National Coal Council (NCC) report on deployment of innovative clean coal technologies. Some of the recommendations reiterate positions taken by the Vice President's Task Force on Regulatory Relief and the Innovative Control Technology Advisory Panel. These include economic incentives to reduce risk as well as adjustments to environmental permitting procedures. Implementation options for these recommendations currently are being developed.

The recommendation to complete the ongoing DOE cosponsored ICCT Demonstration Initiative as planned has been endorsed by the President. DOE has held a workshop on Clean Coal Technology public education and consensus building in December, 1988, which was consistent with another NCC recommendation. In addition, DOE is facilitating a steering committee of public and private representatives to address opportunities to work together in this area in the future.

Answer 75 continued: Remaining NCC recommendations are directed toward improving opportunities for coal and coal technology export. Within the framework of the DOE coal and coal technology export initiative, options for implementation of the thrust of these recommendations are being developed.

QUESTIONS FROM SENATOR ROCKEFELLER

Task Force on Regulatory Relief

Question 76: The President's Task Force on Regulatory Relief issued recommendations to facilitate ICCT deployment. What is the status of the President's Task Force recommendations? Does this Administration support the recommendations of the Task Force on ICCT?

Answer: DOE was assigned responsibility for implementing two of the Task Force recommendations, has a critical role in a third, and is contributing to one of the tasks assigned to EPA. Each of these activities is addressed below.

The Task Force recommended that DOE consider giving preference, under the Clean Coal Technology program, to projects soliciting Federal support in States that, for rate-making purposes, treat clean coal technologies the same as pollution control projects. I am advised that this recommendation will be fully implemented in the Department's forthcoming Program Opportunity Notice, which will solicit project proposals.

Similarly, the Task Force recommended that DOE consider giving preference in selection under the Clean Coal Technology program to projects demonstrating innovative technologies that promise superior cost-effectiveness. DOE plans to use cost-effectiveness of removing sulfur dioxide and nitrogen oxides as a criterion in evaluating the technical merits of a proposal.

Answer 76
continued:

The Task Force recommended that the Federal Energy Regulatory Commission (FERC) establish electric rate incentives for innovative technologies. The Department's Office of Fossil Energy is now evaluating potential regulatory initiatives on which the public could comment. FERC would have the ultimate responsibility for promulgation of a final rule on this matter.

The Task Force recommended four actions to the EPA. DOE has been contributing to one of these: expansion of the availability and applicability of Commercial Demonstration Permits which allow innovative technologies for utility boilers to meet less stringent standards than required for other new sources. DOE staff have met with EPA staff to discuss the scope and extent of changes needed. Work on this activity is continuing, both at DOE and EPA.

With respect to the second part of this question, the Department has not fully evaluated all of the recommendations included in the report on commercialization incentives submitted by the Innovative Control Technology Advisory Panel in January. Nevertheless, in the President's budget message, he stated that the Administration's acid rain legislation will provide incentives for the early deployment of innovative emission reduction techniques.

QUESTIONS FROM SENATOR ROCKEFELLER

Clean Coal Technology

Question 77:	**The ICCT Program offers the U.S. the opportunity to regain its technological leadership in emission reduction technologies in the global marketplace. Considering the aggressive advancements in combustion and post-combustion technologies by other countries such as Japan and Germany, are we advancing quickly enough to compete or should our efforts be accelerated?**
Answer:	The Clean Coal Program, proceeding at the funding level and schedule associated with the President's revised FY 1990 budget request, will be developing these technologies at the optimum rate consistent with the ability of industry to participate and the availability of technological concepts mature enough to proceed into a demonstration phase. Providing the requested advanced appropriations of $600 million for FY 1991 and 1992 will provide the right incentives to those currently supporting R&D efforts on concepts that may be candidates for continued development at the demonstration level in the proposed fourth and fifth rounds of the program. The investment of over $2.5 billion in Federal funds, coupled with non-Federal funding sources, should strengthen the U.S. as the world's leader in advanced coal technology.

QUESTIONS FROM SENATOR McCLURE

Foreign Oil Dependence

Question 78(a): Today the U.S. is more dependent on foreign oil than it was just prior to the 1973 Arab oil embargo -- and that dependence continues to grow. According to DOE data, over the past year:

-- U.S. crude oil production has fallen by almost 3 percent (with lower-48 oil production down by 6 percent);

-- oil consumption has increased by nearly 4 percent; and

-- imports have reached nearly 8 million barrels per day and now account for almost half (44%) of our oil supplies.

The March 1987 Department of Energy report to the President on Energy Security predicted that the U.S. could reach the 50 percent dependence level by 1990, and be as much as two-thirds foreign oil dependent by 1995.

Earlier this year, the Department of Commerce released the results of its Trade Expansion Act investigation on oil imports which concluded that:

> There have been substantial improvements in U.S. energy security since the last Section 232 petroleum finding in 1979. However, declining domestic oil production, rising oil imports, and growing Free World dependence on potentially insecure sources of supply raises a number of concerns, including vulnerability to a major supply disruption. The investigation found that the maintenance of U.S. access to sufficient supplies of petroleum is essential to our economic security, foreign policy flexibility, and defense preparedness. Given the above factors, it was found that petroleum imports threaten to impair the national security.

What are your views on the threat that growing foreign oil dependence poses to U.S. energy and economic security?

Answer: There is a threat to U.S. energy security arising from our growing dependence upon foreign oil imports from potentially insecure sources. While we could take some comfort from the fact that today we are less dependent on oil imports from

Answer 7B(a) continued:

OPEC countries than we were in the late 1970s, the U.S. and other industrialized nations will continue to be vulnerable to any major disruption in world oil supplies due to the interdependence of oil-consuming countries and our strong trade relationships with our allies.

However, today there are abundant supplies of oil available on the world market and an excess production capacity worldwide of 7-10 million barrels of oil per day. Our Strategic Petroleum Reserve contains over 560 million barrels of oil that could be used in the event of a severe energy supply disruption.

QUESTIONS FROM SENATOR McCLURE

Foreign Oil Independence

Question 78(b): In your view is the Middle East now a "secure" part of the world that we can fully rely on for oil supplies?

Answer: Neither the Middle East or any other single region is "secure" enough for us to rely upon fully for oil supplies. For this reason, we have pursued a policy of diversity of supply. We have never relied fully upon the Middle East for our oil supplies, and we are in no immediate danger of doing so. U.S. dependence on oil imports from the Persian Gulf region amounted to approximately 9 percent of domestic consumption in 1988, according to preliminary data.

QUESTIONS FROM SENATOR McCLURE

Foreign Oil Dependence

Question 78(c):	What do you think should be done to assure long-term reliable supplies of energy at reasonable prices?
Answer:	The Nation can be assured of long-term reliable supplies of energy at reasonable prices if it follows a strategy founded on a balanced use of all our energy resources. Of paramount importance is a viable domestic petroleum industry. With this goal in mind, the President has suggested several measures in his budget proposal to Congress designed to maintain our existing petroleum resource base and to encourage new exploration and development. These include: new tax credits for oil and gas producers; the opening of the Coastal Plain of the Arctic National Wildlife Refuge and other promising areas for environmentally sound exploration and development; and deregulation of natural gas. We also must continue to pursue other initiatives, including: energy efficiency and conservation and other energy resources, such as coal, nuclear, and renewables.

QUESTIONS FROM SENATOR McCLURE

Foreign Oil Dependence

Question 78(d): What is your view of a Federal requirement that gasoline contain a minimum alcohol content, say 5 or 10 percent?

Answer: The Alternative Motor Fuels Act of 1988 establishes an Interagency Commission on Alternative Motor Fuels, to be chaired by the Secretary of Energy, whose purpose is to develop a national policy to promote the use of alternative fuels in transportation. Mandatory alcohol requirements for all gasoline is one option that could be considered by this Commission. There may be other approaches to encouraging the use of alcohol and other alternative fuels, and DOE, which has been studying this issue for some time, will assist the Commission in examining all feasible options.

Consequently, I would withhold judgment on the minimum alcohol content option until the Interagency Commission has had an opportunity to review the broad range of available options and make its recommendations.

QUESTIONS FROM SENATOR McCLURE

Nuclear Option

Question 79(a): When President Bush announced your selection as Secretary of Energy he stated, "I am convinced we are not going to solve the national energy needs of this country through hydrocarbons alone or through wind and thermal or coal alone. We must safely use nuclear power."

In your view, what would be required to maintain the nuclear option for the United States and solve the problems that now stand in the way of its utilization?

Answer: One of the most serious impediments standing in the way of greater utilization of nuclear energy is the lack of confidence in that option felt by many Americans, certainly aggravated by the Three Mile Island and Chernobyl incidents. That confidence must be restored.

The United States has demonstrated that it has the technology and scientific excellence to build safe, reliable, and economically sound nuclear plants. Now we must restore confidence in the processes involved in licensing and operation, as well as improve our ability to manage nuclear waste disposal.

As for operations, my brief experience in the civilian nuclear power industry convinces me that we are fast approaching a new crossroads of achieving public acceptance

Answer 79(a) continued:

of the nuclear option. Changes made in operating discipline and strengthening self-regulatory features have been impressive since Three Mile Island.

In addition to operational reforms, however, reform of the now cumbersome and drawn-out process by which nuclear power plants are licensed must occur before U.S. utilities will order new plants and before the Nation's financial community will underwrite such ventures.

Further, progress must be made in implementing the Nuclear Waste Policy Amendments Act of 1987 to assure utilities that they can count on a safe, responsible, and permanent disposal system for civilian nuclear waste being in existence for the projected lives of their new plants.

QUESTIONS FROM SENATOR McCLURE

Nuclear Option

Question 79(b): Do you support DOE's continued assistance of the development and certification of new reactor designs for the next generation of nuclear power reactors?

Answer: Continued DOE support for the development and certification of new designs is an important part of our program. It is necessary both to maintain U.S. leadership in nuclear power, as well as to provide models for the new licensing processes being developed. DOE will support certification of the various technologies on a timescale consistent with their need and stage of development.

QUESTIONS FROM SENATOR McCLURE

Nuclear Option

Question 79(c): **What are your views on the need for Federal leadership and assistance in emergency planning for nuclear power plants, especially in the case where State and local governments refuse to participate in an attempt to block licensing of nuclear power plants?**

Answer: The regulation of nuclear energy is an exclusive Federal function pursuant to the Atomic Energy Act. State and local governments should not be allowed to prevent the operation of completed power plants which have met all other Nuclear Regulatory Commission safety licensing requirements by refusing to participate in emergency planning. The NRC has taken important steps to remedy this problem by their 1988 amendments to their emergency planning regulations. In addition, Executive Order 12657 on emergency planning issued by President Reagan on November 18, 1988, ensures public health and safety in the event State and local governments refuse to carry out their responsibilities. I fully support that Executive Order.

QUESTIONS FROM SENATOR McCLURE

Licensing Reform

Question 80: As you know, the Nuclear Regulatory Commission is in the process of streamlining its licensing process, especially as it would apply to standardized nuclear power plant designs. They are accomplishing this goal using their existing authorities by way of the rule-making process. I am concerned, however, that their existing authorities may not be broad enough, and more importantly, that their rule-making will not achieve the results that are intended. Since the Department of Energy is mandated to provide energy policy direction, and in view of the fact that the Department has long planned a role in licensing reform, will you pledge to monitor the NRC's rule-making process and provide the necessary advice to Congress as to whether or not and how to statutorily augment and enhance NRC's efforts?

Answer: Yes, I will monitor the NRC's rulemaking and will work with the Congress on legislation for an improved licensing process. As I have mentioned, reform of the current unpredictable process by which nuclear power plants are regulated and licensed must occur before U.S. utilities will order new nuclear units. The Department formally commented on the draft NRC rule and is continuing to monitor its progress through the Commission at the present time. DOE will provide recommendations on licensing reform legislation at an early date.

QUESTIONS FROM SENATOR McCLURE

Petroleum Overcharges

Question 81: **As one of his first actions, President Reagan terminated the last vestiges of petroleum price and allocation controls. Nevertheless, after more than 8 years, the Economic Regulatory Administration still is initiating proceedings on cases dating back into the mid-1970's. At some point this process needs to be concluded. Can you assure the Committee that priority will be given to the completion of proceedings on the remaining cases either by litigation or negotiated settlement?**

Answer: I can assure the Committee that every priority is being given to the completion of the remaining ERA petroleum pricing cases. Since President Reagan lifted the controls in 1981, the ERA has reduced the number of cases from 1500 to less than 200. Correspondingly, the ERA reduced its enforcement staffing during that period from 1300 to 128 and from about 50 field offices to two field offices.

The remaining ERA cases are virtually all in some stage of litigation. Consequently, the completion of these cases depends, in large part, on the contentiousness of the firms involved and the schedule of the courts. ERA can not predict when the last case will be resolved. Based on prior experience, however, it is reasonable to expect that some of these cases will not be out of litigation or the bankruptcy courts for two or three years.

Answer 81 continued: The ERA is willing tc conduct reasonable settlement negotiations and has, in fact, negotiated settlement offers for about $1.4 billion within the past year. Negotiations are currently ongoing with many firms.

I have been advised that the ERA is not, and has not for some time, initiated any new cases. Occasionally legal action taken against the ERA creates another case and occasionally a new case develops out of an existing one, but the ERA categorically does not initiate new cases.

I intend to complete the remaining cases and end this program as expeditiously and responsibly as possible. Sufficient resources and support will be devoted to this effort until it is concluded.

QUESTIONS FROM SENATOR McCLURE

New Production Reactor Duality

Question 82(a): It seems to me that, as an Admiral in the United States Navy, you must be quite familiar with the concept of redundancy that requires a backup of forces or of weapons system in support of our national defense. I am thinking of examples such as the TRIAD, the multiplicity of communications systems, and other defense-related systems that have backups so that we are not vulnerable to having "all our eggs in one basket".

Do you support this concept of redundancy in our national defense system?

Answer: The concept of redundancy in our National defense systems is sound.

QUESTIONS FROM SENATOR McCLURE

New Production Reactor Duality

Question 82(b): Would you agree that the two reactor strategy (two reactors of two different designs at two separate sites), as proposed by the Department of Energy last year, can significantly reduce the risk of losing our production capacity as a result of events such as:

- Generic design flaws or other safety-related design deficiencies (which we're experiencing now at Savannah River);
- Operational/management deficiencies (which we're experiencing now at Savannah River);
- An accident at one reactor causing shutdown of the entire complex (such as we experienced at Three Mile Island and at Chernobyl); or
- The threat of espionage, site intrusion, or other deliberate events targeted to a particular site.

Answer: Constructing two new reactor plants of two different technologies at two separate sites would reduce significantly the risk of losing our production capacity as a result of the events listed.

QUESTIONS FROM SENATOR McCLURE

New Production Reactor and Modernization

Question 83(a)(i): The largest single task that you will have to deal with during your tenure is the modernization of the aging weapons complex and the restoration and remediation of the DOE sites that have been housing this complex over the last forty years.

With respect to remediation, I am sure you realize as I do that cleanup of forty years' worth of substandard practices cannot be accomplished overnight, and that some of the sites are obviously in a lot worse shape than others in terms of risks to the environment or to public health.

How do you intend to prioritize the remediation tasks?

Answer: First, we will need to examine these sites and get a clear picture of what needs to be done at each site. After that, we can prioritize each site based on the level of threat it poses to the environment, safety, or health. These sites are not all similar and, therefore, cannot be addressed in the same manner.

QUESTIONS FROM SENATOR McCLURE

New Production Reactor and Modernization

Question 83(a)(ii):	How do you propose to fund these cleanup efforts without jeopardizing the national security missions of the Department?
Answer:	The amended budget provides an additional $360 million including an approximate $240 million increase for environmental cleanup and waste management, and the remainder for safety activities. This provides funding for cleanup while we are in the characterization stage. While increases may have to be requested in future year budgets, depending on our planned site-by-site characterization and prioritization, this funding need not compromise the national security mission of the Department. As I have said, I am very skeptical of the cost estimates we have seen covering a 20 to 30 year period. These figures have not been based on a realistic analysis of what needs to be done at each site. Once we have completed characterizing the sites, formulated a five-year plan of action, and established a budget line to meet those goals, I think the job will appear much more achievable.

QUESTIONS FROM SENATOR McCLURE

Condition of Weapons Production Complex

Question 83(b)(i): With respect to modernization of the weapons complex, I cannot stress enough the urgency associated with the need to replace our nuclear materials production reactors. I cannot believe we so readily abandoned this commitment back in 1985, when the New Production Reactor project slated for Idaho was canceled, largely due to budget constraints far less cumbersome than we are faced with today, and also because of the dangerously short-sighted assumption made back then that there were "no known life-limiting threats" to the existing reactor complex. So now we find overselves in the precarious position of having no production capacity at this time, and if we are very lucky, we'll be able to address the safety and operational deficiencies associated with the Heavy Water Reactors at Savannah River and get those reactors operating once again. And if we're very lucky, we'll be able to operate these reactors at a level that will enable us to meet production requirements without compromising on safety. And if we are very, very lucky, we'll be able to operate these reactors for the ten years or so that it will take to bring the new production reactors on-line.

Mr. Watkins, are you as alarmed as I am about the present condition of our weapons production facilities?

Answer: I am deeply concerned about the condition of the nuclear weapons production facilities as well as the nuclear materials production facilities that support our nuclear deterrent mission. I am alarmed by the apparent lack of urgency in changing the management and operating attitudes at these facilities and the deficiency of adherence to prescribed procedures. I intend to review thoroughly the recently

Answer 83(b)(i) continued:

completed modernization study and the Department's plans for the implementation of its many recommendations. I intend to see that the facilities and operations that support this Nation's national security are available, reliable, secure, and safe. Undoubtedly, extensive and expensive projects will be required, but my immediate, principal emphasis will be directed at establishing the Department's and its contractors' responsibilities to the Nation and the communities it is charged to protect.

QUESTIONS FROM SENATOR McCLURE

New Production Reactors

Question 83(b)(ii): Will you remain committed to the Department's decision of last year -- a decision premised on recommendations of the Energy Research Advisory Board and vigorously supported by the Department of Defense -- to build two new production reactors using two different technologies at two separate sites?

I ask this question to sensitize you not only to the importance of this decision, but also to the solid basis upon which the decision was made, and the need to proceed on an urgent schedule. This urgency is supported by the DOE FY 1990 Budget Highlights, which state, "The proposed strategy to bring new production reactor capacity online is to proceed on an urgent schedule with the preparation of an environmental impact statement concurrently with research and development and project design activities tailored to maintain the preferred reactor technologies on the same schedules for start of construction". A change in stewardship at the Department must not trigger a re-invention of the wheel with respect to this crucial area, and I would hope that you will respect and adhere to this commitment for the sake of our national security.

Answer: The Department's preferred strategy of constructing two new reactor plants of two different technologies at two separate sites is a sound one. I remain committed to the Department's decision of last year. This strategy will provide a high degree of assurance of reliable tritium production capacity for defense requirements so that this Nation will no longer need to rely on the existing production reactors. This approach will provide a high degree of protection against supply disruption from natural disasters, sabotage, or institutional problems, as well as unforeseen safety or technology problems.

QUESTIONS FROM SENATOR McCLURE

Special Isotope Separation (SIS)

Question 84(a): Along these same lines, the very fact that we find ourselves in the position of having no reactor capacity on line to produce any special materials highlights the need for the Special Isotope Separation (SIS) facility, which will enable us to produce weapons-grade plutonium without relying on the Savannah River reactor facilities whose future missions in any event are not likely to include plutonium production.

But besides its primary mission of producing the equivalent of 15 reactor-years' worth of weapons grade plutonium, are you aware of the other unique capabilities of the SIS, including the capability for producing tailored mixtures of special isotopes for a wide variety of military applications?

Answer: Yes, I am. The SIS facility will provide a number of capabilities essential to the DOE mission to provide special nuclear materials, specifically plutonium, for use in the weapons program. The primary capability, of course, will be the production of weapon-grade plutonium from DOE inventories of fuel-grade material. The SIS will likely be the only source of new weapon-grade plutonium until the new production reactors fully meet tritium demands and become available for plutonium production sometime after 2005.

Answer 84(a)
continued:

In addition, the SIS plutonium processing building will provide a capability to purify plutonium scrap, in parallel with its primary function, and following completion of that function, could fulfill a role in processing material from retired weapons. A number of other capabilities of this facility have been identified, including, as you point out, the production of "super grade" material for low radiation or special design applications. It must be emphasized, however, that SIS is being supported because of the critical need to provide a contingency source of weapon-grade plutonium.

QUESTIONS FROM SENATOR McCLURE

Special Isotope Separation (SIS)

Question 84(b): Are you prepared to defend this project with vigor before some of the more skeptical Members of Congress, whose agenda and priorities may not necessarily coincide with those of the Department of Energy?

Answer: I view the SIS project as a necessary component in the DOE effort to modernize its defense complex and to provide the Nation with a reliable source of materials for the maintenance of our nuclear deterrent. The DOE must move forward on the new production reactors to assure a future source of tritium; it must modernize its weapons retirement facilities to avoid disruption there; and it must build the SIS production plant to assure a source of new weapon-grade material. It must do all of these things, while at the same time moving vigorously ahead with its environmental restoration activities. I will defend this project with vigor.

QUESTIONS FROM SENATOR McCLURE

Safety Versus Production

Question 85: As we discussed, during the last year, the Department of Energy has received a great deal of press coverage about the current status of its nuclear weapons complex. Every time I think I've heard the worst of it, and we've nowhere to go but up, some new event or finding further complicates the unfolding saga of the Department's ever-aging weapons complex.

For those of us who care about this Nation's national security, its deterrence capabilities, the quality of our environment, and the health and safety of workers and the public, this situation is truly unacceptable. Therefore, it is important that we come to grips with the existing problems, establish priorities for their resolution, and find a source of funds to accomplish these goals without compromising the national-security missions of the Department.

My concern is that there may be insufficient time to accomplish this goal. My concern is that the President may be asked to make a choice between safety and the production of nuclear materials before an alternative supply of tritium can be found. In your judgment, does this possibility exist?

Answer: I will not restart these reactors until I am convinced they are safe to operate. Neither will I put the President in a position of having to choose between safety and production of nuclear materials. Safety and production goals are mutually compatible in my opinion. The existing problems at the Savannah River reactors are being identified, and the Department is moving to resolve those problems. Additionally, a long-term program will be set in place to assure the continued safety of the reactors for the interim period until the new production reactors are on line. To accomplish this, a longer-term Reactor

Answer 85 continued:

Safety Improvement Program will need to be carried out. In that way the Department will be able to produce the nuclear materials required for our national security without jeopardizing the safety of the workers and the public or compromising the quality of the environment.

QUESTIONS FROM SENATOR McCLURE

Shoreham/Seabrook/Emergency Planning

Question 86(a): For the last several years, I have been following with great interest and concern the situation with respect to licensing of the Shoreham and Seabrook nuclear power plants. As you may know, Shoreham was completed in 1985 and Seabrook in 1987. These two plants would in fact be operating today, providing much needed electricity to a region on the brink of brownouts and blackouts, but for a hitch in the licensing process that enable State and local governments to block the licensing process by their refusal to participate in the emergency planning process.

I was pleased to see the Nuclear Regulatory Commission address this impasse by revising their regulations to be more consistent with the congressional intent underpinning the emergency planning statute.

I was even more delighted when the Department of Energy emerged from its cocoon to provide the policy leadership needed to advance the Executive Order on emergency planning, an order that further clarifies the role of the Federal Emergency Management Agency with respect to emergency planning.

So we have come a long way, yet the full-power licensing and operation of Shoreham and Seabrook is still not assured, and I find this situation to be not only absurd, but truly appalling.

Even though the Executive Order I referred to has been signed, it will still take some time to formulate the regulations implementing the Order. Do you plan on taking an active role in seeing that these regulations are properly but expeditiously formulated?

Answer: The Department is currently playing a major role in the formulation of the regulations implementing Executive Order No. 12657. We anticipate that the Federal Emergency Management Agency's regulations will be published in the Federal Register for public comment in the near future.

QUESTIONS FROM SENATOR McCLURE

Shoreham/Seabrook/Emergency Planning

Question 86(b): It is inconceivable to me that Long Island Lighting Company could be held hostage to a deal that would actually pay them to abandon the Shoreham plant. If Governor Cuomo is successful in his efforts to make this deal happen, I guarantee you that someone will ultimately pay for this irresponsible policy, and I suspect the victims will be not only the taxpayers and the ratepayers, but also the citizens of New York State who entrusted their well-being to leaders who have misplaced that trust.

Would you agree with me that something is grossly wrong with our national energy policy that has somehow allowed this situation to arise?

Do you intend to examine this policy to see how we might avoid this type of situation in the future?

Answer: State and local governments should not be allowed to prevent the operation of completed power plants which have met all other NRC safety licensing requirements by refusing to participate in emergency planning.

The recent NRC rule revision and Executive Order 12657 on emergency planning, along with reform of emergency planning requirements for the licensing process, are intended to ensure this type of situation does not happen again. I applaud these steps.

QUESTIONS FROM SENATOR McCLURE

Nuclear Waste Disposal

Question 87: One area that has been a source of great consternation to lawmakers and the nuclear industry is the Department's nuclear waste disposal program. As you are probably aware, the utilities with nuclear power plants have been funding this program at the rate of 1 mill per kilowatt-hour for almost seven years now, and we have yet to sink an exploratory shaft to characterize a disposal site. You probably also appreciate the political unpopularity of this program, and the efforts that Congress made back in 1987 to remove some of the hurdles that had heretofore paralyzed the program. I think we are now all anxious to see some real progress in the program.

I would urge you to select a leader with outstanding managerial skills to head up your Office of Civilian Radioactive Waste Disposal. I would also urge you to streamline the process as much as possible by eliminating unnecessary duplicative functions among the various contracts and offices within the program, and by giving the recently-selected Systems Engineering, Design, and Management contractor the necessary latitude to really manage the program as it was meant to do.

Would you do so?

Answer: The success of the waste management program is of utmost importance, and I am fully committed to the successful implementation of the provisions of the Nuclear Waste Policy Act of 1982, as amended.

A top priority of mine will be to seek outstanding individuals to fill all the key departmental positions. I give you my personal commitment to finding a top-quality Director for the waste management program.

Answer 87 continued:

The recent selection of the management and operating contractor for the nuclear waste program is a major step toward streamlining the process and elim'nating duplicative efforts. I intend to provide the contractor with the latitiude to assist Office of Civilian Radioactive Waste Management officials in effectively managing the program. Additionally, we will continue to seek ways to streamline the process and improve the efficiency of this vital national program.

QUESTIONS FROM SENATOR McCLURE

Waste Isolation Pilot Plant (WIPP)

Question 88: The Idaho National Engineering Laboratory has been accepting transuranic wastes from Rocky Flats Plant on a temporary basis since the early 70's. We have done so under the assumption that the permanent disposal facility--the Waste Isolation Pilot Plant--in Carlsbad, New Mexico, would begin accepting wastes by the mid-80's.

Last year, this Committee spent a great deal of its time on legislation to provide permanent land withdrawal for the WIPP site. Unfortunately, this legislation became unnecessarily encumbered with provisions that would have severely restricted the ability of the Department to proceed with the experimental phase of WIPP operation, and these and other issues eventually prevented passage of any legislation dealing with WIPP during the last Session.

I am pleased that the Department is now proceeding with an administrative land withdrawal for WIPP, so that operations can begin with or without legislation by the end of this year. I don't have to remind you of the limited patience within the State of Idaho with respect to progress in the start-up of WIPP. And so I merely ask that you assist us in seeing that reasonable land withdrawal legislation is passed, and that as a fallback, you have in place the necessary administrative clearances to enable the Department to proceed with WIPP operations this year.

Would you agree to do so?

Answer: I look forward to working actively with the Congress to secure passage of WIPP land withdrawal legislation in this Session of Congress. DOE is aggressively proceeding to complete all actions necessary to open the facility. In this connection, the Department is pursuing both administrative and legislative land withdrawal. On January 19, 1989, the Department submitted its application to the Department of the Interior for a modification of the existing land withdrawal order so that operations might proceed at WIPP, absent the passage of land withdrawal legislation. DOE made clear, however, that the administrative

Answer 88 continued: land withdrawal should not become effective until and unless this Session of Congress adjourns without having enacted legislation. The Department is pursuing this course only as a fallback to the preferred legislative land withdrawal. I will work actively with the Congress in formulating a constructive and effective legislative land withdrawal package.

QUESTIONS FROM SENATOR McCLURE

Nuclear Safety

Question 89(a):	One area that has concerned me for some time now is the organizational structure of the Department with respect to safety functions, accountability, directives, and oversight. This structure becomes even more complicated by the recent creation of the Advisory Committee on Nuclear Facility Safety (headed by John Ahearne) and the soon-to-be-created Independent Safety Oversight Board, coupled with the existing Office of Environment, Health and Safety. If confirmed, do you plan on making a close examination of the interrelationship among all these various safety-related entities, and possibly restructuring the office to derive the maximum benefit and efficiency?
Answer:	Yes, I intend to examine carefully the DOE organization to assure that, internally, the Department has clearly defined roles and responsibilities of line management and has provided internal oversight for carrying out its safety and environmental policies and procedures. The Department must have a clearly defined relationship with and respond to external oversight bodies such as the current Advisory Committee on Nuclear Facility Safety and the future independent Defense Nuclear Facilities Safety Board.

QUESTIONS FROM SENATOR McCLURE

Departmental Organization for Safety Oversight

Question 89(b): Do you plan on re-examining the overall line management structure of the Department in order to bring safety closer to those people who are charged with actual operation of the Department of Energy Laboratories?

Answer: Yes, I plan a thorough review of the existing line management structure, including the manner in which the Department performs management oversight of its own operating contractors.

QUESTIONS FROM SENATOR McCLURE

Uranium Enrichment

Question 90(a): One program that has been under especially close scrutiny over the last several years is the uranium enrichment enterprise within the Department's Office of Nuclear Energy. This enterprise, which years ago operated rather autonomously as a world monopoly, is now barely able to keep its head above water due to a number of problems including competition for more progressive, business-oriented overseas competitors, and strangling of our enterprise by Congress and the bureaucracy. Last year, the Senate deliberated at length as to how to restructure the enterprise to get it back on its feet. The Department was actively involved in these debates and was generally constructive in its input. I would hope that under your stewardship the Department will continue to participate in this debate as it unfolds in the 101st Congress, and in particular, that you will recognize the importance of the government corporation structure as the crucial first step in getting this enterprise back on its feet.

Will the Bush Administration contribute to the formulation of legislation to restructure the uranium enrichment business?

Answer: In his revised budget, President Bush affirmed his support for restructuring DOE's uranium enrichment enterprise. The Department fully intends to submit a legislative proposal to Congress. I am ready to work closely with Congress to bring this important initiative to fruition.

QUESTIONS FROM SENATOR McCLURE

Uranium Enrichment

Question 90(b):	**Do you support continued research and development of the Atomic Vapor Laser Isotope Separation (AVLIS) technology for eventual replacement of our outdated gaseous diffusion technology?**
Answer:	I believe that research and development of the AVLIS technology should be continued in order to complete a demonstration of the technical and economic merits of this enrichment process. DOE has a program in place to provide a demonstration of the AVLIS technology by the end of CY 1991. If demonstration validates the technical and economic value of AVLIS, the Department would support deployment.

QUESTIONS FROM SENATOR McCLURE

Uranium Enrichment

Question 90(c):	In general, what role do you think the Federal government should play in assuring the viability of the domestic mining industry, which by the way, was again declared nonviable for the fourth year in a row?
Answer:	The domestic uranium industry has been suffering from oversupply conditions resulting from nuclear plant cancellations and deferrals, excess capacity, and excess uranium inventories. This is due in large measure to the fact that no U.S. utility has ordered a nuclear power plant in over a decade. Following the December 1988 nonviability finding of the industry for CY 1987, the Secretary of Commerce was requested to investigate the effects of imported uranium on national security. The results of this study, which should be completed by September 1989, will help determine an appropriate course of action.

QUESTIONS FROM SENATOR McCLURE

Advanced Reactor Research

Question 91: Members of this Committee have followed with great interest the advanced reactor research programs within the Office of Nuclear Energy. These programs set the stage for the next generation of nuclear power plants in this country, and I cannot stress enough the importance of the Department's leadership in the areas of the Integral Fast Reactor research, the High Temperature Gas Reactor development, and the advanced light water reactor cooperative effort with private industry. Are you familiar with the distinct contributions that each of these programs provides to the future of our domestic nuclear energy industry, and will you continue to support each of these efforts to the fullest degree possible, not only to keep the facilities and infrastructure alive, but also in order to make meaningful progress with respect to the results that each program is meant to achieve?

Answer: Yes, I am familiar with the advanced reactor technologies under development by the Department and I support continued research in this area to ensure that nuclear energy remains a safe, economically competitive and an environmentally acceptable option that contributes to national energy stability, security, and strength.

QUESTIONS FROM SENATOR McCLURE

Electric Utility Industry Structure

Question 92: Our Nation's economic prosperity and quality of life is closely linked to the reliability of electricity, as is our national security. Our currently structured electricity system has brought American consumers reliable electric service that is the envy of the world. However, the structure of that industry and the role of traditional electric utilities in supplying electricity demand is being challenged by a number of factors. Specific actions by State and Federal regulators in recent times have influenced the structure of the industry. Additional changes proposed by the Federal Energy Regulatory Commission would go even further, resulting in very fundamental changes in the basic structure of our Nation's electricity supply system. I, and other members of this Committee and indeed the Congress, are deeply concerned that the issues raised by the FERC NOPRs be fully considered and the consequences of the proposed changes understood. What is at stake here is an obligation to the American people to assure that the proposed changes and related actions be considered very cautiously and deliberately so as to assure that the needs of American consumers and industry are met and reliability of our present electricity system is not jeopardized. These are matters in which the Department of Energy has very a vital interest and responsibility. Can you assure me that you and the Department will give priority attention to these matters generally and the proposed actions by FERC in particular? I urge that the Department give due emphasis to these issues, and would ask how you will assure this will occur?

Answer: I fully appreciate the vital link between reliable electricity supplies and our national economy and the need to move cautiously and deliberately in promulgating far-reaching structural and regulatory changes. The Department of Energy can and should play a fundamental role in formulating national energy policy affecting the electric utility industry. I can assure you this will receive my personal attention.

QUESTIONS FROM SENATOR McCLURE

Appliance Standards Rulemaking

Question 93:	In your judgement, should promulgation of stricter energy efficiency standards for refrigerators and freezers reflect consideration of the schedule in the Montreal Protocol for phase out of CFCs? Should the rule-making reflect consideration of whether or not the proposed standards can be achieved with current technologies? What is your opinion on the use of standards to force the development of technologies?
Answer:	On December 2, 1988, the Department published a proposed rule concerning energy conservation standards for refrigerators, refrigerator-freezers, and freezers. The Department proposed a range of efficiency levels from no change from the Congressionally mandated standard to about a 25 percent increase in the stringency of the standard. In doing so, the Department considered the impact of the Montreal Protocol on the ability of manufacturers to meet the more stringent standard levels. The Department received 121 comments on the proposed rule, including many comments on the issue of technological feasibility. DOE is reviewing these comments and will finalize its position on these issues in the final rule.

QUESTIONS FROM SENATOR HATFIELD

Departmental Organization

Question 94: Given the recent controversies over management of the Atomic Energy Production complex and recognizing that these activities comprise nearly one-half of the Department's entire budget, what can Congress expect in the way of Departmental reorganization to reflect a commitment to resolving these problems?

Answer: It is my intention to move immediately to enhance line management of high priority programs and to deal personally with difficult issues faced by the Nuclear Weapons complex. Over the next few months, as I pull together my management team, I expect to evaluate the present structure and management control systems and pursue needed longer-term solutions to the kind of safety, environmental and facility problems we face.

QUESTIONS FROM SENATOR HATFIELD

Global Warming

Question 95:	In light of the international concern over climate changes and the demonstrated adverse consequences of fossil fuel consumption, is the Department at cross purposes by proposing a new global warming initiative at the same time it is proposes 25% cuts in renewable and 70% in energy conservation programs within the Department?
Answer:	The Department of Energy (DOE) and other relevant agencies are working to develop options that reduce the accumulation of greenhouse gases and that mitigate or adjust to the results of possible climate changes. To this end, the United States Government, with DOE involvement, launched an important initiative last year to encourage the formulation of an Intergovernmental Panel on Climate Change to advise the World Meteorological Organization and the United Nations Environmental Programme on climate change research and development of policy options. These options, which include both renewable energy technologies and conservation, will be analyzed for their technical feasibility and effectiveness as well as their economic impacts. The need to develop information of this sort is evident if we are to arrive at the kind of national and international consensus that will be required for effective action. While I have not had the opportunity to review in depth the conservation and renewable energy budgets, I believe that these programs will play a significant role in the reduction of

Answer 95 continued:

greenhouse gases and will continue to be an integral part of our national energy policy. A review of these priorities will be part of my agenda in the coming weeks.

QUESTIONS FROM SENATOR HATFIELD

National Energy Policy

Question 96: I have long felt that the development of a national energy plan would provide not only an insight into our current and future energy situation, but an important political base from which policies might be adopted by Congress (e.g., ANWR). Will this Administration and the Department submit a national energy plan to the Congress? If so, to what extent will that policy document be coordinated with the Interior Department's offshore oil and gas drilling policies, the Agriculture Department's alcohol and alternative fuels activities, and potential changes by the Treasury Department in the tax treatment of expenditures for energy resources and technologies?

Answer: I intend to develop, in cooperation with the Congress, other elements of the Federal Government, and leaders of State and local governments, an energy strategy that will lead to a future where all energy resources will be used sensibly and economically to meet the Nation's energy needs, while demonstrating full sensitivity to environmental concerns.

Such a national strategy must be developed and implemented in full coordination with the related policies of other departments and agencies. The Department of Energy Organization Act mandates the President to prepare and submit to the Congress a biennial National Energy Policy Plan (NEPP). The Act requires the next NEPP to be delivered on April 1, 1989. I fully expect that, while additional time for completion may be requested, this NEPP will accurately reflect the Administration's energy policies, plans, and strategies.

QUESTIONS FROM SENATOR HATFIELD

PMA Repayment Acceleration

Question 97: The Pacific Northwest's power marketing agency, the Bonneville Power Administration, has proven to be a very successful example of Federal-regional cooperation. As you may know, the Bonneville Power Administration has had a very good record of late when it comes to meeting Federal debt repayment obligations. Yet, the Reagan administration included in its proposed budget provisions that would accelerate the repayment rates of all five power marketing administrations. The 35 percent rate increase Bonneville Power Administration would have to issue in order to meet the terms of this proposal would have serious economic consequences for the Pacific Northwest. While the argument over Power Marketing Administration debt repayment has been longstanding, past Energy Secretaries have pledged to pursue any potential adjustments through the legislative process rather than attempting to achieve them administratively. Will you continue this policy?

Answer: I have not had the opportunity to study this matter thoroughly. I do know that the President has recommended reforming the Power Marketing Administration's repayment practices to bring them more in line with good business practice. While this might bring some increase in rates in some regions of the country, rates are much higher in other areas. I support the President's budget, and I assure you that I will look closely at how we might alleviate any potential problems.

QUESTIONS FROM SENATOR HATFIELD

Impact on BPA of Repayment Acceleration

Question 98: To follow up on the previous question, could you please provide for the record copies of any staff analyses regarding the accelerated repayment proposal for the Bonneville Power Administration?

Answer: Bonneville Power Administration has prepared an analysis at the request of Representative Peter DeFazio of Oregon, and the analysis is summarized in the attached letter.

Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

February 2, 1989

In reply refer to: BPA-ALG

Honorable Peter DeFazio
House of Representatives
Washington, DC 20515

Dear Mr. DeFazio:

This is in response to your January 12, 1989, letter requesting the estimated impacts of former President Reagan's Budget for fiscal year 1990. The Budget included a proposal to change the repayment practices of the Power Marketing Administrations, including Bonneville Power Administration.

Under the proposal, repayment of the unpaid balance of the Federal power investments financed by appropriations would be made on a fixed, straight-line amortization schedule over the remaining repayment period, rather than the flexible schedule now in use which does not require the scheduling of fixed annual principal payments. Repayment of the portion of irrigation investments that are assigned for repayment out of power revenues would also be made on a fixed, straight-line amortization schedule within the period usually allowed--typically 50 years from the end of the project development period. The budget also includes a proposal that the annual interest rate on the unrepaid appropriations for both the power and irrigation investments be annually set at market triple-A rated utility interest rates, rather than kept at the project interest rates which are in use now and are based on the Government interest rate policies in effect when the projects were authorized.

Our study of the proposal concludes that it would be necessary for BPA to increase its payments for interest and amortization by an average of $525 million annually in fiscal years 1990 and 1991, boosting the total Treasury payment for each of these years to more than $1 billion. Based on what we see ahead for the economy and the market for power, it is likely BPA would need an increase of about 35 percent in its Priority Firm (PF) power rate. That would take the PF rate from 2.39 cents per kilowatthour to about 3.26 cents per kilowatthour.

The rate effect might be markedly different under more pessimistic or more optimistic assumptions than we made for this analysis. We assumed that interest rates will average between 9 and 10 percent, but in our experience of the last dozen years, they have ranged from 8 to 16 percent. We also assumed that the price of aluminum will move from its present level of about $1.10 a pound to 73 cents a pound, but in our recent experience, it has been as low as 46 cents and as high as $1.39 a pound. To protect against the new large effect of interest rate volatility on our ability to ensure full payment of our Treasury obligations each year, we assumed the need to plan on raising an extra $100 million. BPA expects its PF load to decline by roughly 200 average megawatts due to price response. We further expect that the PF customers would displace about 300 average megawatts of Federal power purchases with purchases from other suppliers. Finally, based on this current environment, we expect that under the proposal the aluminum industry load would drop by about 850 average megawatts.

A more optimistic set of assumptions about interest rates, aluminum prices, and the response of BPA loads can produce a rate increase as low as 20 percent with correspondingly smaller impacts on the region's economic infrastructure. A more pessimistic set reaches 55 percent with correspondingly larger impacts on the region's economic infrastructure.

Thank you for your letter and your interest in the President's Budget proposal. Should you have any further questions, please do not hesitate to contact us.

Sincerely,

Administrator

QUESTIONS FROM SENATOR HATFIELD

BPA and WAPA Organizational Structure

Question 99: Currently, the Bonneville Power Administration and the Western Area Power Administration have a special relationship that allows them to report directly to the office of the Secretary. This important arrangement reflects the size and importance of these two Power Marketing Administrations. Will you continue this practice?

Answer: At this point, such a determination with respect to the Bonneville and Western Area Power Administrations has not been made. I will continue to evaluate the Department, and intend to make organizational changes necessary to enhance the Department's efficiency and effectiveness, while preserving the best and most effective aspects of its structure and programs.

QUESTIONS FROM SENATOR HATFIELD

Modular High Temperature Gas Reactors

Question 100: Please explain the extent to which the Modular High Temperature Gas reactor research within the Defense and Civilian research programs might be the same and how they differ.

Answer: There is a high degree of commonality between the Modular High Temperature Gas Reactors for civilian and defense applications. The proposed Modular High Temperature Gas Reactor for defense application is based on the reactor design developed in the civilian program with modifications to specific features to optimize the plant for tritium production. Accordingly, the resulting designs will not be identical. In view of the many areas of commonality, the Department has formed a task force to closely coordinate the planning and execution of the development tasks to share results and avoid unnecessary duplication. The significant differences in the research programs are directly related to the following:

1. Use of highly enriched uranium in the defense reactors rather than low enriched uranium in the civilian design.

2. Use of uranium only in the fuel of the defense reactors rather than uranium and thorium in the civilian design.

Answer 100 continued:

3. As a result of the different fuel enrichment and composition, the defense reactors will have different reactor physics than the civilian reactors.

4. Inclusion of lithium target elements in the defense reactors that are not present in the civilian reactors.

5. Significant change in fuel management for defense reactors to facilitate management of lithium targets.

6. Addition of 100 percent steam bypass capability for defense reactors to permit continued tritium production in the absence of electricity production.

7. Contemplation of additional containment features in defense reactors that would not be required in civilian reactors.

8. Use of oil lubricated circulator bearings in the defense reactors instead of magnetic bearings, which are proposed for the civilian reactors.

QUESTIONS FROM SENATOR HATFIELD

Linear Accelerator

Question 101: What is the Department's position on the research, development, testing, or construction of linear accelerator technology as it applies to tritium production?

Answer: The technical risk of attempting to use linear accelerator technology for large scale production of tritium for nuclear weapons has been judged too great for accelerators to be considered as a substitute for the currently planned new production reactors. The potential use of accelerators for this application has been reviewed several times over the years by various groups, including the DOE Energy Research Advisory Board and most recently a consortium including DOE National Laboratories. The overall consensus is that the technology is not sufficiently mature at this time to be deployed for reliable large scale tritium production. At a minimum, a multi-year program of engineering development work would be needed to determine whether the recent advances in accelerator technology, largely under the Strategic Defense Initiative Program, are sufficient to make this technology a viable candidate for future deployment for large scale tritium production. The DOE expects accelerator development work to continue and will review the technology periodically for potential future applications.

QUESTIONS FROM SENATOR PRESSLER

Continental Scientific Drilling

Question 102: One of the programs funded under the Department of Energy's Office of Energy Research is the Continental Scientific Drilling Program (CSDP). This program retrieves vital information to help in predicting earthquakes, locating deposits of strategic minerals, improving drilling technology, and advancing scientific knowledge of the Earth's crust. Yet this important program, which is funded jointly by the U.S. Geological Survey, the National Science Foundation, and the Department of Energy (DOE), has suffered recently because the Office of Energy Research has redirected DOE funding away from CSDP. Consistent funding is necessary by all three participating agencies for this program to remain viable. Will you commit the Department of Energy to fulfilling its funding responsibilities to CSDP?

Answer: As you indicated, the goal of the Continental Scientific Drilling Program (CSDP) is to help in the prediction of earthquakes, to locate strategic mineral deposits, to improve drilling technology, and to advance scientific knowledge of the earth's crust. While the CSDP is an important effort, there are other technologies which offer promise in making significant progress in geoscience research. DOE has under consideration activities which would take advantage of the most recent technological developments in underground acoustical imaging. The DOE is seeking competitive research proposals to permit an evaluation and informed determination of the most effective way to acquire knowledge essential to activities such as the discovery and recovery of petroleum resources and the identification of underground aquifers at potential waste disposal sites. In pursuing

Answer 102:
continued:

CSDP and the high resolution underground imaging program, DOE will seek to optimize the funding within the total geosciences effort.

This may require DOE's funding contribution to the CSDP to decline even though DOE's share of the total Federal CSDP will probably be maintained or increased. Indeed, the reduced funding level contained in the FY 1990 budget still represents a commitment to the program as large as that of the other two agencies combined.

QUESTIONS FROM SENATOR GARN

Western Research

Question 103(a): The last eight years have seen a dramatic change in the infrastructure of U.S. energy, both in terms of loss of expertise and in terms of shift in program activities. Market factors in the petroleum industry have reduced the profitability to a point where industry has reduced their research and development staff, by some estimates, as much as 50%. Rapidly changing government priorities and inconsistencies have made it difficult -- if not impossible -- to maintain University programs. As a result, the past eight years have seen a dramatic decline in the number of energy experts in the country.

Even for those industries that were involved in synthetic fuels development, the information base has severely suffered. Files and documents from synthetic fuels initiatives in the late 1970s and early 1980s have been shelved, and many of the technical people knowledgeable of these data have been graduated to retirement. As the majors divested themselves of synthetic fuels involvements, files and data have been turned over to the smaller operators or entrepreneurs. Most of these do not have the economic or technical capability to use the information. Incredibly, some information of historical significance has been simply discarded for want of saving storage space.

Over the past eight to ten years, the Executive Branch has taken an increasingly Eastern perspective in its energy initiatives. For the past several years, the executive budget has requested no funds for tar sands and only Congressional initiatives have maintained this program. Similarly, programs have been dropped for Western oil shale. The initiatives in coal are principally targeted at mid-western and eastern high-sulfur coal. Government policies have been introduced which make utilization of Western low-sulfur coal non-competitive with the Eastern higher sulfur coal, even though utilization of Western coal would assist in the acid rain problems on a per-Btu basis.

Question 103(a) continued:

The de-federalization of three energy technologies centers, namely: Laramie, Wyoming; Bartlesville, Oklahoma; and Grand Forks, North Dakota, virtually eliminated government presence in energy development in the western United States. Current misconceptions about Western development requirements abound. These include poor or erroneous conceptions of labor force, community infrastructure, water requirements, capital investment, roads and utilities requirements.

Yet, the Western United States will be the place the country turns to for the long-term synthetic fuels development. Utah contains significant amount of tar sands and vast amounts of oil shale, development of which eventually will be needed for the country's energy supply and national security. Yet the government has no programs in these areas and, in recent years, has requested no funds for R&D activities.

Will you develop plans for establishing and maintaining R&D activities for substantial Western resources and not just Eastern ones? If so, how?

Answer:

DOE has several ongoing R&D activities in Western resources. The Department's Unconventional Gas Recovery Program has supported the Multiwell Project in Colorado through the 1980s. This project has developed the most extensive knowledge base to date on producing gas from low permeability lenticular reservoirs. Future research activities are being planned for this resource. DOE's recently completed Rocky Mountain #1 Underground Coal Gasification test was highly successful and completed DOE's program in the in-situ gasification of flat lying western coal seams. The field effort was conducted in Wyoming. In addition, DOE recently has initiated a new program with New Mexico's two national laboratories which would transfer their weapons technology and expertise to oil and gas applications through the Industry National Laboratory Partnership program.

Answer 103(a) continued:

Further, Fossil Energy's FY 1990 budget request includes $2.3 million to fund cooperative R&D projects through the Western Research Institute at Laramie, Wyoming and the UNDEMRC facility at Grand Forks, North Dakota.

QUESTIONS FROM SENATOR GARN

Training Programs Through Universities

Question 103(b): **Will you develop programs for assuring that expertise is trained through University education and research and development activities? If so, how?**

Answer: DOE is the third leading Federal sponsor of university research (after NIH and NSF), which not only produces new scientific and technical knowledge, but also educates and trains the next generation of U. S. science and technology leaders. DOE university research funding directly supports over 4,000 graduate students and post-doctoral researchers each year. In addition, about 3,000 university students and faculty spend anywhere from a few weeks to a year participating in DOE laboratory research and using the unique facilities and scientific instruments located at the laboratories.

Collaboration among universities, the laboratories, and industry also is becoming more and more important. For example, a Multiphase Flow Research Institute at Argonne National Laboratory involves 19 scientists and their students from 19 Midwestern universities working together with Argonne scientists and other scientists and engineers in three industrial research laboratories on problems of

Answer 103(b) continued:

multiphase flows. Such research is critical to understanding the complex turbulent mixing and heat transfer interactions that occur in many industrial processes in fossil, chemical, and nuclear energy industries.

I believe that DOE, as a major supporter of the Nation's scientific and technical expertise, has an important role not only in replenishing the Nation's pool of scientists and engineers but also in meeting the challenges of decreasing numbers of young Americans choosing to pursue careers in science and technology.

The success of many DOE missions and programs depends heavily on a continual flow of new, highly skilled and educated young scientists and engineers into both the DOE civil service and its contractor workforce. This is a responsibility that all research programs share.

I will, therefore, encourage each assistant secretary to develop and support both research and science education programs designed to encourage young people to pursue careers in DOE-related science and technology and to help meet the science and technology challenge and opportunities facing the Nation.

QUESTIONS FROM SENATOR GARN

Tar Sands Program at the University of Utah

Question 103(c): Will you develop a realistic short- and long-term program in tar sands at the University of Utah? Is a five year program at the University of Utah reasonable?

Answer: The Department is continuing to fund tar sands research at the University of Utah this fiscal year and expects to award the University these funds within a few months to continue work started last year. In the context of our overall need for fossil energy, the Department will be reassessing and updating its role regularly in terms of short- and long-term research.

QUESTIONS FROM SENATOR GARN

Western Oil Shale Research

Question 103(d): Will you develop a realistic short- and long-term program in oil shale as envisioned by the Western Oil Shale Action Committee? Last year, the Senate Interior Appropriations Committee report was very specific about how oil shale funds should be divided. Unfortunately, the final conference report garbled the intent of Western Senators. Will you agree to instruct your Assistant Secretary for Fossil Fuels to disperse funds along the lines of the FY 1989 Senate Interior report?

Answer: DOE proposes to maintain a core program addressing critical research areas, applicable to both eastern and western shale resources, to position the Department to respond with a broad based R&D effort at the appropriate time in the future.

DOE has provided funds to support the Enhanced Western Shale Oil Recovery Initiative in both FY 1988 and FY 1989 as directed by the Congress for studies including both niche markets and preliminary engineering design studies.

With respect to spending the FY 1989 oil shale funds, the Department believes it is following the guidance provided in the conference report accompanying Public Law 100-446, the Department of the Interior and Related Agencies Appropriations Act for FY 1989.

QUESTIONS FROM SENATOR GARN

Clean Coal Technology

Question 103(e):	**Will you develop programs to ensure fair distribution of clean coal technology funds for Western low sulfur coal as well as eastern high sulfur coal? What ratio (west vs. east) do you envision?**
Answer:	The first two rounds of the Clean Coal Technology program resulted in limited response from the West and only a few of the projects selected are located in the West. As a result, DOE has undertaken a fact-finding effort to understand the problem and to identify solutions that can be incorporated into the third round of competition to elicit a greater response from Western proposers. A public meeting was held in Cheyenne, Wyoming, on December 2, 1988, to better understand why Western involvement in the program has been so limited. At the three additional clean coal technology public meetings held to obtain input to the third round of competition, the issue was further discussed. The Innovative Control Technology Advisory Panel, the advisory group on this program, has been asked for its thoughts on the Western issue. And finally, the DOE working group tasked with the responsibility of preparing the third round solicitation has been asked to ensure that the solicitation allows East and West to compete on an equitable basis.

Answer 103(e) continued:

It is my intention to ensure that the third and future rounds of the Clean Coal Technology Program allow for the demonstration of all U.S. coals consistent with Congressional guidance. I cannot speculate, at this time, as to the ratio of Western to Eastern projects that will be selected since this depends upon the quantity and quality of proposals that are received.

QUESTIONS FROM SENATOR GARN

Status and Requirements for Research

Question 104(a): I have some specific recommendations and invite your response to each. These are:

That DOE take a fresh look at the status and requirements for research for industry, universities, and independent research laboratories.

Answer: I will ensure that the Department is very sensitive to the balance and mix of national laboratories, industry, and universities in the conduct of R&D. I will look to the National Academy of Sciences and the Energy Research Advisory Board to provide recommendations for enhancing our cooperative research efforts with industry, universities and research laboratories. As I indicated in my opening statement, I want to "improve the process by which new technologies are transferred to American industries, small businesses, and universities." One of the best ways of doing this is to ensure that these institutions are active participants in the R&D process from the very beginning -- starting in the laboratory phase of development -- and that they remain active participants throughout each stage of the R&D process. I will ensure that an appropriate balance and mix of research is in place throughout the Department so that we are drawing upon the best academic and private sector expertise available and conducting our R&D in a way that makes the transition from laboratory to commercial practice as smooth as possible.

QUESTIONS FROM SENATOR GARN

Establish an Independent Western Office

Question 104(b):	That DOE establish an independent Western Office which reports to Headquarters at the same level as PETC and METC.
Answer:	I am advised that Fossil Energy already has two western project offices that support DOE research efforts in the West. The Bartlesville Project Office (BPO), which reports directly to Headquarters, is located in Bartlesville, Oklahoma. BPO currently has 14 employees who support research activities in petroleum and unconventional hydrocarbon technology. The Laramie Project Office (LPO) is located in Laramie, Wyoming, and currently has 9 employees. The LPO, which reports directly to Morgantown Energy Technology Center (METC), supports research activities in many different fossil technologies including oil shale, surface coal gasification, underground coal gasification, combustion systems, control technology and coal preparation, and advanced extraction and process technology. Both BPO's and LPO's workload has been expanding recently with many new Western State initiatives. This expansion is expected to continue, particularly at LPO, in light of the Department's

Answer 104(b) continued: anticipated award of new cooperative agreements to firms located in the West as a result of the Clean Coal solicitations. The management oversight of these Western cooperative agreements will be provided by LPO. As the workload continues to grow, the manpower, organizational structures, and reporting lines will be reevaluated.

QUESTIONS FROM SENATOR GARN

Tar Sands and Oil Shale Programs

Question 104(c): That DOE establish a realistic program in tar sands and oil shale.

Answer: DOE proposes to maintain a core program addressing critical research areas applicable to both Eastern and Western shale resources, to allow the Department to respond with a broad based R&D effort at the appropriate time in the future.

QUESTIONS FROM SENATOR GARN

Develop Initiatives in the Synthetic Fuels Area

Question 104(d): That DOE foster and encourage development initiatives which begin with small, but profitable, ventures to establish a foot-hold in the synthetic fuels development areas. Such initiatives as asphalt from tar sands, nitrogen compounds from shale oils, waxes from shale oil, and resins from coal have all been identified as particularly attractive market niches. There is no current research and development program available to support these activities. Small-scale start-up activities in each of the areas of Western tar sands, oil shale, and coal would move the technology forward and would provide a nucleus for expansion into synthetic fuels as the time arises.

Answer: The Department of Energy annually invites small business firms to submit proposals for the Small Business Innovation Research (SBIR) program. Firms with strong research capabilities in science or engineering in designated topic areas, which include synthetic fuels, are encouraged to participate. DOE supports high-quality research and development on advanced concepts concerning important energy-related scientific or engineering programs and opportunities that could lead to significant public benefit.

Objectives of this program include stimulating technological innovation in the private sector, strengthening the role of small business in meeting Federal research and development needs, increasing the commercial application of DOE-supported research results, and improving the return on investment from Federally funded research for economic and social benefits to the Nation.

Answer 104(d) continued:

DOE will continue to advocate the SBIR program and plan for increased activity for the future in stimulating small business research opportunity.

In regard to Fossil R&D related to Western resources, DOE provided funds in FY 1988 to conduct studies related to niche markets for specialty products from western oil shale, but has not yet received the results of those studies. DOE also has initiated a cooperative agreement that anticipates application of the New Paraho process to preparation of asphalt materials from eastern shale for an experimental demonstration project that would parallel a privately-funded Western shale oil asphalt project.

In addition, the Department of Energy initiated a coal-based co-products program in 1986 which involves the mild gasification of coal to produce solids, liquids, and gases. This process is applicable to Western coals, and two of the major contractors have chosen Wyodak coal as the basis for process development. This mild gasification technology has the potential of entering niche markets and represents an opportunity for alternative fuels utilization in the United States.

QUESTIONS FROM SENATOR CONRAD

Western Coal

Question 105: About 70 percent of all proven, recoverable coal reserves in the United States are west of the Mississippi River. During the first two rounds of solicitations for the Clean Coal Technology Program, however, only a few of the many proposals selected for negotiations for awards were from states west of the Mississippi.

Do you support efforts to ensure that low-rank coals share proportionately in awards under the Clean Coal Technology Program?

Answer: The Clean Coal Technology Program should not be biased against any domestic coal. I believe we can continue to adhere to the recommendations of the U.S./Canadian Special Envoys on Acid Rain by selecting projects that use the full spectrum of U.S. coals. I also believe that projects should be selected on the basis of technical merit, economic potential, commercial prospects, and other factors in addition to resource location. Monies now added back to the FY 1990 budget by President Bush should lead to a broader-based Round 3 set of proposals where Western coal demonstration projects should be more competitive.

QUESTIONS FROM SENATOR CONRAD

Underground Coal Gasification

Question 106:	Do you support continued research into underground coal gasification, and do you think that such research should be eligible for funding under the Clean Coal Technology Program?
Answer:	I support continued research into underground coal gasification consistent with overall budget constraints. I understand that the Department recently has completed a successful side-by-side test of two underground coal gasification techniques that will yield valuable information the private sector can use to determine the commercial potential of this technology. The test was the culmination of many years of government and private sector research. One of the initial Clean Coal Technology projects is an underground coal gasification project. Similar projects may be proposed in subsequent rounds of competition.

QUESTIONS FROM SENATOR CONRAD

Great Plains Coal Gasification Plant

Question 107:	The federal government recently divested itself of the Great Plains Coal Gasification Project near Beulah, North Dakota. The Department of Energy negotiated the sale, and selected Basin Electric Power Cooperative of Bismarck, North Dakota as the preferred buyer. The agreement provides that the federal government could eventually receive $1.8 billion from the sale, including as much as $649 million in projected revenue sharing from the sale of the project's synthetic natural gas. If the buyers of the synthetic natural gas attempt to breach their contracts for purchase of the gas, would you recommend that the Department of Energy intervene on behalf of the plant in defense of the contracts?
Answer:	I recognize that the Department continues to have a financial involvement in the Great Plains Project by virtue of the revenue sharing provisions contained within the sales agreement, and gas sales are critical to the financial profitability of the plant. Thus, I would be extremely concerned if the gas purchasers attempted to violate the terms of their legal contracts. Before committing the Department to ask the Justice Department to intervene on behalf of the plant, however, I would have to have a better understanding of the legal circumstances surrounding any breach of contract.

APPENDIX III

Additional Statement Submitted for the Record

ENVIRONMENTAL POLICY INSTITUTE

Statement of

MICHAEL S. CLARK

President of the

ENVIRONMENTAL POLICY INSTITUTE

on behalf of EPI and

FRIENDS OF THE EARTH

before the

United States Senate

Committee on Energy and Natural Resources

Hon. J. Bennett Johnston, Chairman

Concerning the Nomination of

Admiral James A. Watkins, U.S. Navy (Ret.)

to become

UNITED STATES SECRETARY OF ENERGY

February 22, 1989

218 D Street, S.E., Washington, D.C. 20003 (202) 544-2600

MR. CHAIRMAN and MEMBERS OF THE COMMITTEE, I make this statement for the record on behalf of the Environmental Policy Institute, Friends of the Earth and The Oceanic Society to testify concerning the nomination of retired Admiral James Watkins to become Secretary of Energy and former Congressman W. Henson Moore to become Undersecretary of Energy.

For the record, EPI is a public-interest advocacy-oriented group dedicated to research and education on environmental issues in response to the concerns of local citizens' organizations. Established 17 years ago, EPI's efforts now are concentrated in the areas of public health, energy, conservation of natural resources and global concerns -- such as ozone-depletion, massive tropical deforestation and global warming.

Earlier this month we formally announced our merger with Friends of the Earth and its 33 affiliated chapters worldwide and with The Oceanic Society to build a global advocacy organization for the 1990's. We have been moved to join forces by the growing recognition of the worsening condition of the planet and the need to organize a more effective citizens' response. Founded in 1969, Friends of the Earth will continue its well-known campaigns on a broad range of energy, water, public lands and atmospheric quality issues. The Oceanic Society, also founded in 1969, has been the only national membership organization dedicated solely to the protection of the oceans for the people and the wildlife who depend on it for life, livelihood and enjoyment.

Since the inception of the U.S. Department of Energy in 1977, our organizations routinely have been involved with the policies and programs of the Department nergy. Today we wish to express very serious concerns and reservations about the direction in which President Bush intends DOE to head as signalled by the nomination of Admiral Watkins for Secretary and former Congressman Moore of Louisiana for Undersecretary.

The United States and the rest of the world today face extraordinary air pollution problems in the form of acid rain and smog from energy consumption -- and the threat of global warming poses challenges and concerns due to potential environmental effects rivaling those of nuclear war.

President Bush recognized the gravity of these problems and acknowledged many of them to the American electorate during the recent presidential campaign. Beyond his campaign's spotlighting of the deplorable pollution of the Boston Harbor, George Bush made numerous environmental pledges to the voters, including a commitment to convene a worldwide conference to address the urgent issue of global warming.

The new Secretary of State James Baker has just urged countries to cooperate in countering the dangers of the global warming trend through reduced emissions of carbon dioxide and other gasses which cause the problem, improved energy efficiency and reforestation to provide trees which consume carbon dioxide.

We believe the new Secretary of Energy and his top appointees should do no less than Secretary Baker. Within this context of global warming, we urge the Committee to carefully examine the backgrounds and experience which the designated Secretary of Energy and Undersecretary may or may not bring to these positions of immense national and global responsibility.

In the situation of Admiral Watkins, environmentalists are faced with what very nearly is a blank slate. While he has received high marks for competent service in the Navy and as the chairman of the AIDS Commission, Admiral Watkins with reference to a wide range of crucial energy issues simply has no track record of involvement.

Admiral Watkins' Naval background has acquainted him with one aspect of nuclear power, but as far as we know he has no direct experience with the full range of questions associated with nuclear power and the production of nuclear weapons for which DOE is responsible. Nor has he dealt with energy conservation and efficiency programs, or important renewable energy sources such as solar power, wind power or biomass.

As far as former Congressman Moore is concerned, the slate is not blank. Here we find one of the worst environmental voting records in the House of Representatives, with an average rating during his tenure of only 24 on a scale of 100 from the bipartisan League of Conservation Voters. This means that Henson Moore voted against the environment more than three out of every four times he got the opportunity.

Specifically, Mr. Moore in the 99th Congress voted against important improvements to the Superfund toxic waste control legislation, and refused to help on acid rain; in 1986, his last year in Congress, his LCV rating was only 9 out of 100. In 1984 he repeatedly voted against stronger protections in the Superfund legislation and in favor of fewer limits on construction of new power plants.

The year before that Mr. Moore voted against energy conservation and nuclear non-proliferation -- and in favor of an environmentally unsound coal-slurry pipeline and reduced controls on toxic waste disposal. And in 1982 he voted against safeguards for disposal of military nuclear wastes and in favor of limiting the legal rights of victims of hazardous waste and reducing state power in nuclear siting decisions.

The Department of Energy historically has focused almost exclusively on the "supply side" of energy issues while virtually ignoring the "demand side". That is, DOE's compulsion has been to seek more and greater sources of energy rather than to solve energy problems by reducing demand and/or increasing efficiency. This has occurred at a time when investments in end-use energy efficiency are by far the most cost-effective for any utility, industry, or consumer.

Also over the years, in terms of DOE's supply-side endeavors, the Department's bias has come down heavily in favor of nuclear power, nearly as heavily on behalf of the burning of fossil fuels, and almost malevolently neglecting our renewable resources (such as solar and wind power) as if they were exotic pipe-dreams at best.

And today, Mr. Chairman, it appears that America will be getting just more of the same old business: the nuclear industry, as represented by its proponent Admiral Watkins, and the oil-and-gas industries, as represented by former Congressman Moore of Louisiana. Our concern is that the energy efficiency which our society -- indeed, our planet -- so desperately needs will continue to be seated in the back of the bus.

DOE's budgetary bias in favor of nuclear, oil and gas defies not only energy efficiency but sound economics as well; for years the American economy has been about twice as energy-intensive as the economies of either Japan or West Germany, our major competitors in the global economy. The United States currently wastes about $30 billion each year on inefficient electric lighting. Yet by most ways of calculating subsidies, nuclear, coal and oil have received between 10 and 20 times as much susidization as have programs aimed at energy efficiency and conservation.

The nomination of Admiral Watkins comes at a time in which not only the environmental community but the national press corps and many Members of Congress have realized that the Department of Energy's nuclear weapons production complex has gone out of control. An obsession with secrecy on all nuclear issues isolates DOE from the technical and safety expertise available in the nuclear industry at large.

Instead of allocating the appropriate funds as investments in public health, worker safety and environmental protection, DOE consistently has chosen to routinely fund more production of nuclear materials. When combined with DOE's isolation, the consequences include rampant environmental abuse and the construction and operation of facilities whose safety cannot be assured.

Admiral Watkins faces awesome challenges and responsibilities in terms of reforms within the nuclear weapons production complex. The perpetuation of self-regulation within the nuclear weapons production system is intolerable. Without substantial changes in current laws and practices the American people have no guarantee that the continued operation of nuclear weapons production facilities is in their best interest -- or that public health and the environment are being protected.

The recent accident at the K-Reactor at the Savannah River Plant in many ways was a replay of the P-Reactor incident there last August, in which standard operating procedures, safety controls and reporting requirements either were ignored or overruled. Repeated accidents of this nature clearly demonstrate that reforms within DOE will not necessarily improve safety at DOE facilities.

If approved as Secretary of Energy, we call on Admiral Watkins to work closely with Congress to develop a means of independent regulation and oversight of the Department of Energy. State and federal agencies independent from DOE must be commissioned and funded to monitor all phases of DOE's nuclear weapons operations -- including production, waste management and environmental restoration operations. This should include procedures for citizen participation in the licensing of production sites and waste sites as well as the structuring of environmental protection and monitoring programs.

For decades, successive Administrations have failed to substantiate the need for continued production of plutonium and other nuclear weapons materials and we call upon Admiral Watkins and Mr. Moore to publically justify any further production at the DOE facilities. By the same token, Congress has been negligent in its responsibilities to ensure that nuclear weapons materials production activities truly are warranted -- especially at such overwhelming financial and environmental costs.

Congress should be requiring the Secretary of Energy to furnish clear public proof that future nuclear weapons materials production activities are essential to national security. In the absence of such proof, all funds currently earmarked for new plutonium and high-enriched uranium production should be transferred to clean-up and environmental restoration efforts at Savannah River, Rocky Flats, Hanford and across the country.

The question in the minds of environmentalists and many other citizens regarding these nominations is whether the new Secretary and Undersecretary are going to steer the United States on a path toward energy efficiency or perpetuate the grossly excessive subsidies which have gone to nuclear, coal and oil in past years. The background on these two individuals suggests that the American people, who increasingly and rightfully are becoming more alarmed about global warming and carbon dioxide buildup in our atmosphere, are in for more than a big disappointment. We earnestly hope that this will not be the case.

The facts of life today on Earth are such that it is imperative for us to deal with energy to create a sustainable life-support system for our planet. We are convinced that most of the world is looking toward the United States to initiate that shift -- and it should start, with a little help from Congress, from within the U.S. Department of Energy.

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